MODERN EQUIPMENT and PROCESS NUMBER

OCTOBER, 1933

COTTON

Serving the

TEXTILE INDUSTRIES

OCT 25 193

Condor Compensated

PAT. APPLIED FOR

NRA MEMBER U.S. WE DO OUR PART

Condor LINE

V-Belt	Fire Hose
Flat Belt	Steam Hose
Cone Belt	Mill Sundries
Air Hose	Suction Hose
Acid Hose	Oilless Bearings
Water Hose	Rubber Lined Tanks

Rubber Covered Rolls

Industrial Brake Blocks and Lining

Condor Compensated belt is a general purpose belt for textile mills to be used with or without idlers and is designed to operate at low tension at speeds up to 5000 f. p. m. under all atmospheric conditions. Special maintenance and attention are unnecessary. The belt has an overload capacity of 100%. Fasteners hold from three to four times longer than on standard rubber belts.

Sold by leading Jobbers

The Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc.

Executive Offices and Factories, Passaic, New Jersey

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ATWOOD MACHINES PRODUCE THE BULK OF AMERICA'S SILK AND RAYON YARNS

THE NEW

Oilless Monarch Twister

Daily oiling of the machine is hereby banished. If you *DON'T USE OIL* you *CAN'T GET OIL SPOTS.* That's the idea of the New Oilless Monarch. It eliminates the daily oiling—no lubrication attention is needed except at your usual periodic inspection while machines are down.

FOR SILK AND RAYON

FOUNDED 1852

THE ATWOOD MACHINE COMPANY STONINGTON, CONN., U. S. A.

Sales Offices: New York Stonington, Conn. Wilkes Barre, Pa. Charlotte, N. C. Los Angeles, Calif.

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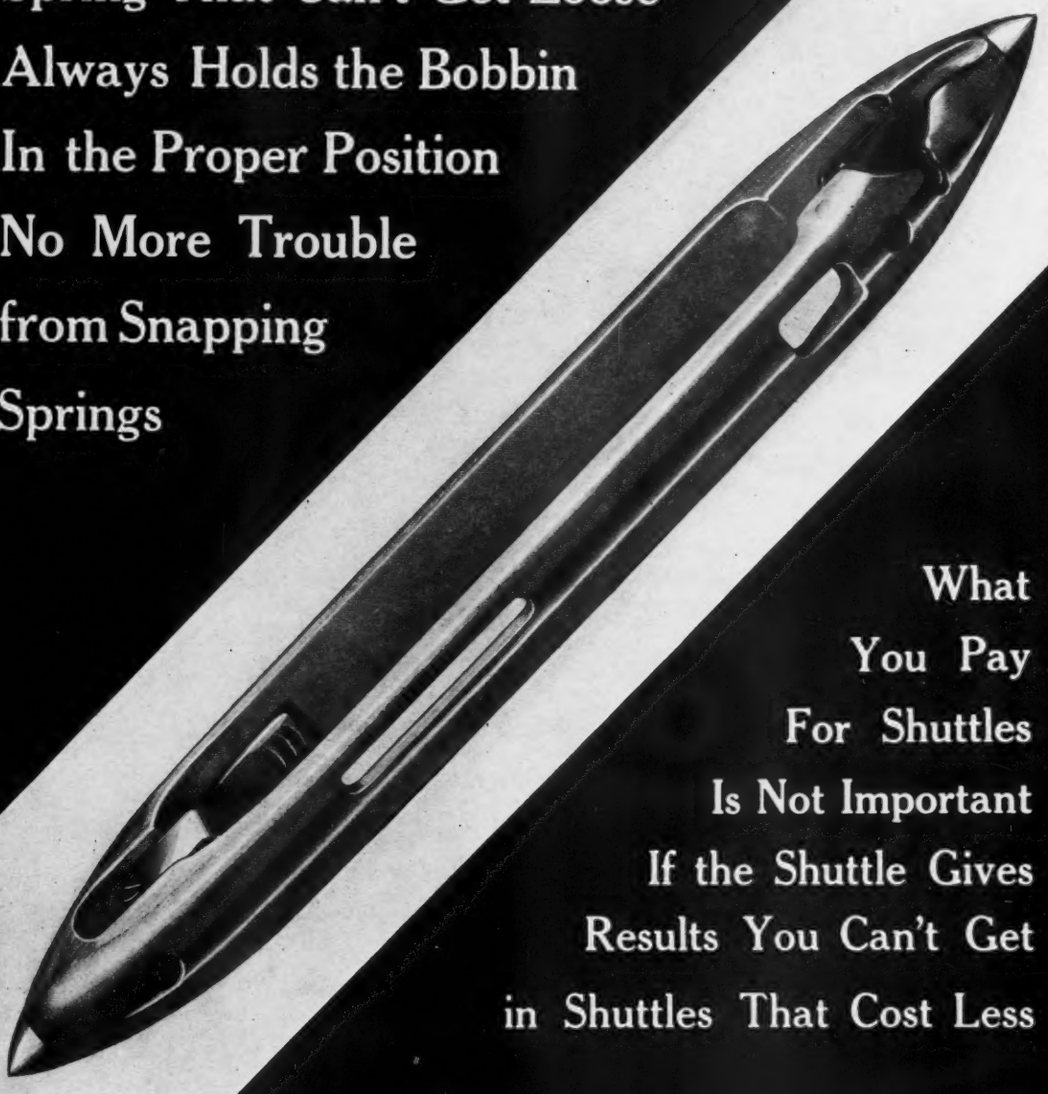
Here is a Shuttle Designed to Cure
All Known Faults of Spring End
Spring That Can't Get Loose
Always Holds the Bobbin
In the Proper Position
No More Trouble
from Snapping
Springs



What
You Pay
For Shuttles
Is Not Important
If the Shuttle Gives
Results You Can't Get
in Shuttles That Cost Less

DRAPER CORPORATION
Hopedale Massachusetts
Southern Offices Atlanta Ga and Spartanburg S C

POINTS OF CONTACT

THESE four strategically located manufacturing plants are representative of Sonoco's Ideal of Service to the Textile Industry. They are concrete evidence of how seriously we guard this 35-year-old policy of our business.

But Sonoco Service does not end with these conveniently established points of contact. In fact, our greatest contributions of genuine service have come through our technical service department—a department of research — where-in our trained staff of expert technicians have for years worked closely with the textile industry in solving many of its most important problems relating to paper carriers and many other items developed to increase efficiency and lower costs in textile mills. The Sonoco Plants at Hartsville, S. C., Rockingham, N. C., Plainfield, N. J., and Brantford, Ont., are the Contact Points of Sonoco Service.

VELVET SURFACE CONES · TUBES · UNDERCLEARERS · SPOOLS · CORES · CORK COTS

SONOCO PRODUCTS COMPANY

HARTSVILLE, SOUTH CAROLINA

NRA MEMBER U.S. WE DO OUR PART

BRANCH PLANTS:
Rockingham, N. C.
Plainfield, N. J.
Brantford, Ontario

MAIN PLANT and GENERAL OFFICES:
Hartsville, S. C.

EASTERN SALES OFFICES:
709 W. Front St.,
Plainfield, N. J.

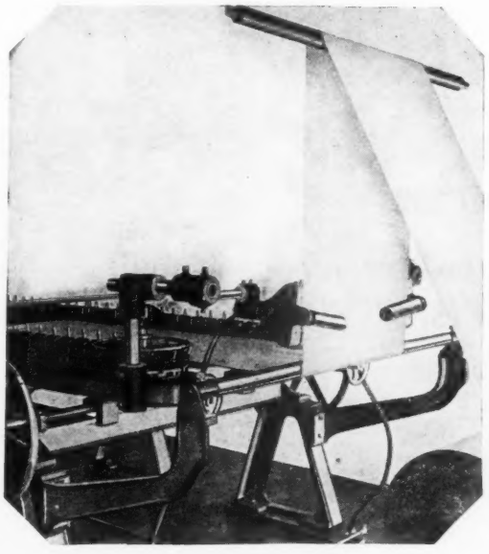
You can figure in one minute just how much you will save in hand labor and preventable seconds . . . . . .

by installing

FOXWELL GUIDERS

They should be used on all machines in which goods travel

Foxwell Guiders eliminate all labor costs in guiding goods into practically any kind of a machine. They handle all weights and widths of fabrics, and run at any speed. They are not complicated and there is nothing about them to wear out. They can be moved easily from one machine to another.



Foxwell Guiders feeding fabric into Butterworth Automatic Tenter

FOXWELL GUIDERS NEVER HAVE AN OFF DAY NOR A DAY OFF—THEY WORK FOR NOTHING AND NEVER GET TIRED

★

Literature on Foxwell Guiders will be sent promptly. And remember — Butterworth Engineers are always ready to work with your own organization.

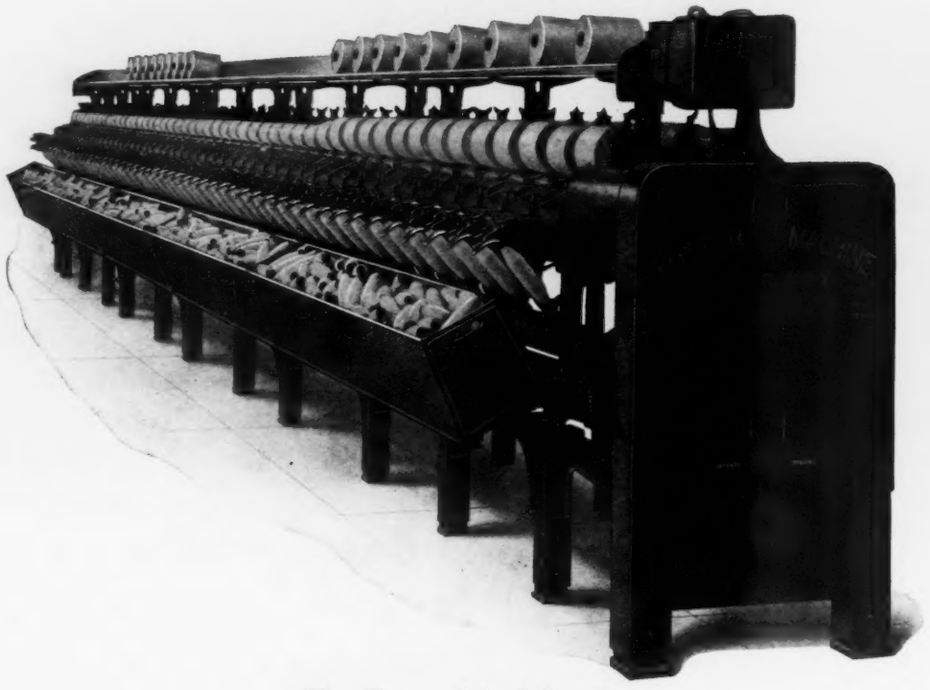
H. W. BUTTERWORTH & SONS COMPANY, ***Established 1820***
PHILADELPHIA, PA.
PLANTS *at* PHILADELPHIA *and* BETHAYRES, PA.

New England Office: TURKS HEAD BUILDING, Providence, R. I.
Southern Office: JOHNSTON BUILDING, Charlotte, N. C.
In Canada: W. J. WESTAWAY CO., Hamilton, Ontario

BUTTERWORTH *Finishing* MACHINERY

A COMPLETE LINE OF FINISHING AND RAYON MACHINERY FOR THE TEXTILE INDUSTRY

Foster Model 102 Tube Winder



The Foster Model 102

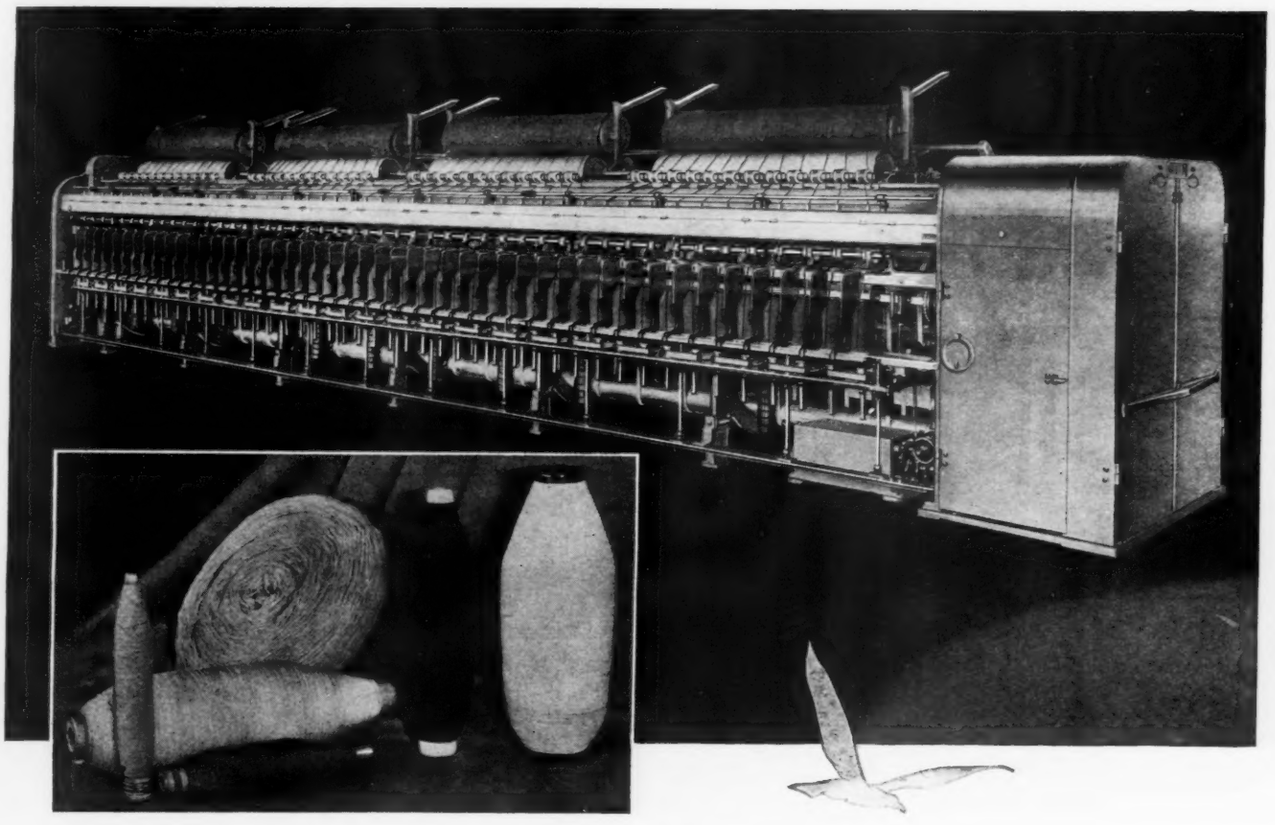
winds tubes of cotton yarn for twister supply in mills making ply yarn. Dyeing tubes for all dyeing package systems. Tubes for any work that does not require precise wind lay of yarn.

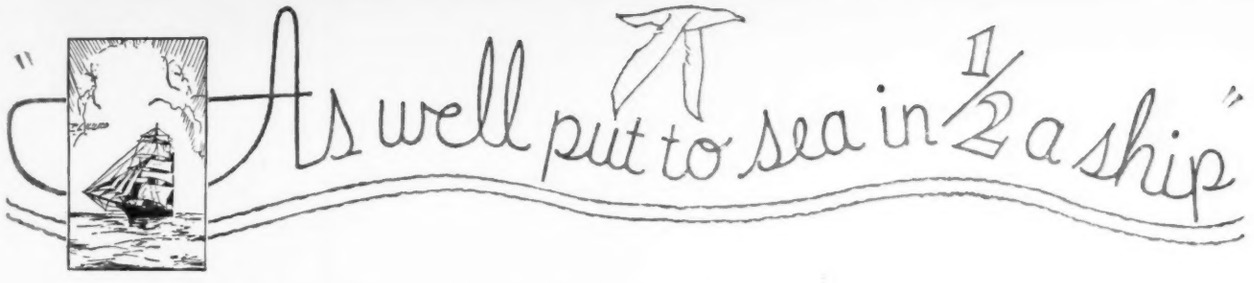
The combination of automatic threading parts and high winding speed in the Model 102 has lowered yarn manufacturing costs and brought economy in power and floor space.

Foster Machine Company

WESTFIELD, MASSACHUSETTS.

FRED P. BROOKS, REPRESENTATIVE, P. O. BOX 941, ATLANTA, GA.





The mule delivers roving through ½ its cycle of operations. The wool spinning frame furnishes a continuous supply of yarn. The essential mule principle, combined with increased production, reduction in floor space and low labor costs . . . that is ½ the story!

Modern large package spinning means wide gauge, large rings and long traverses. The new Whitin Wool Frame alone can give you these . . . it is designed for today's needs. That is the other ½ of the story!

Any carded woolen roving which will run on a mule can be spun on the Whitin Wool Spinning Frame with better quality, evenness and strength. The Frame will handle low grade mixes not possible to spin in any other way.

Packages from one to eight times larger than mule bobbins • *Production* increase 100% to 450% • *Rewound filling bobbins,* greater yardage • *Reduced Winding Costs,* with fewer knots, less doffing • *Loom efficiency increased,* fewer seconds, reduced burling and sewing costs • *Head End* of Box Construction, with working mechanisms and Drives enclosed • *New Type Spindle Drive,* counterbalanced rails, and entire elimination of any binding, resulting in a perfect spin • *Auto-matic Wind Back* returns rail to position and stops frame for doffing • *Duo-Speed Builder* with low forward and high reversing speed • *Instant change from left to right-hand twist* • *All-metallic Threadboard,* with patented guides • *One Shot Lubrication.*

WHITIN MACHINE WORKS **WHITIN** WHITINSVILLE, MASS.

QUALITY AND ECONOMY

NOW is the time to put all of your machinery in efficient and trouble-proof condition. Now is the time to complete your stock room with all needed repair parts. Higher production costs and higher prices are on the way.

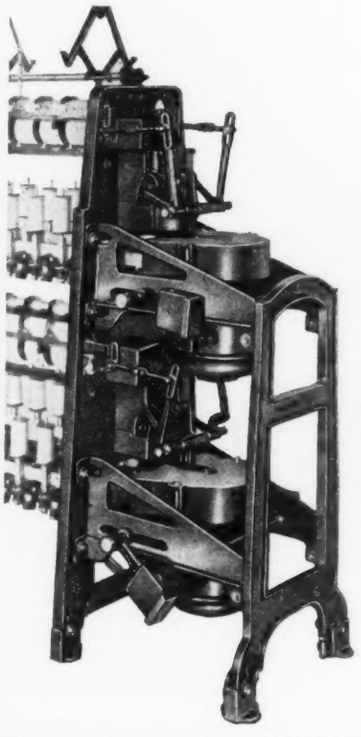
Long experience with textile equipment and knowledge of the weakest points in present day machinery, combined with skilled workmen, precision patterns and high quality materials, are reasons why HENDERSON REPAIR PARTS have proven so dependable and economical. Low overhead and close location to Southern mills enable us to make them substantial savings and render quick service.

Send your order for needed parts today or send samples of parts desired and let us quote you prices.

HENDERSON FOUNDRY & MACHINE WORKS
HAMPTON, GEORGIA

HENDERSON
TEXTILE REPAIR PARTS

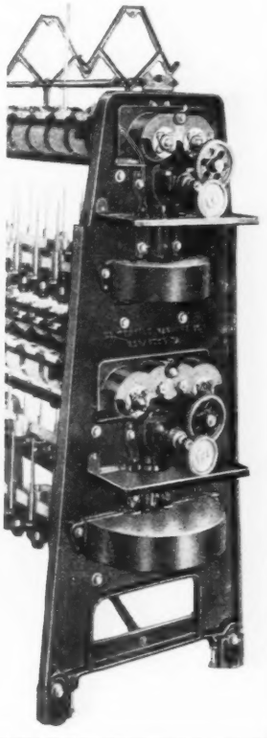
THE MACHINE OF TOMORROW



The New

U. S. ACME TWISTER

for Silk and Rayon



—"this is the type machine we have been waiting many years for"—say leading silk and rayon manufacturers.

The new U. S. ACME embodies a remarkable step forward in improved Twister construction. It has met with phenomenal success since its introduction last April and leading manufacturers are placing orders for as many as fifty machines at the time.

This machine is constructed for high speed at lower power consumption and to produce yarn absolutely free from oil and dirt contamination.

Individual 2 H.P. motor on each deck, mounted on slide controlled by rack-gear and weight which delivers uniform tension assuring smooth and even speed and operating with a high power factor. Traverse mechanism with self-lubricating cam and roller achieves a steady stroke with perfect traverse. All gears in fixed position for quick change and so designed to change ratio and not center distance from tram to crepe twist. All twist gears mounted outside of frame on bracket which can swing opposite twist as desired from one to eighty turns. All twist ranges evenly beaded and accurate. Tram, organ, crepe, grenadine, rayon. Each deck can be operated separately. One deck offset more than the other, giving operator better vision to locate broken ends. Yarn travels same angle and distance on both decks assuring same uniform tension throughout machine. Ball bearings are used, including ball bearings in roller shafts, traverse mechanism and twist gear bearings. The entire machine is accurately and rigidly constructed, perfectly balanced to eliminate vibration.

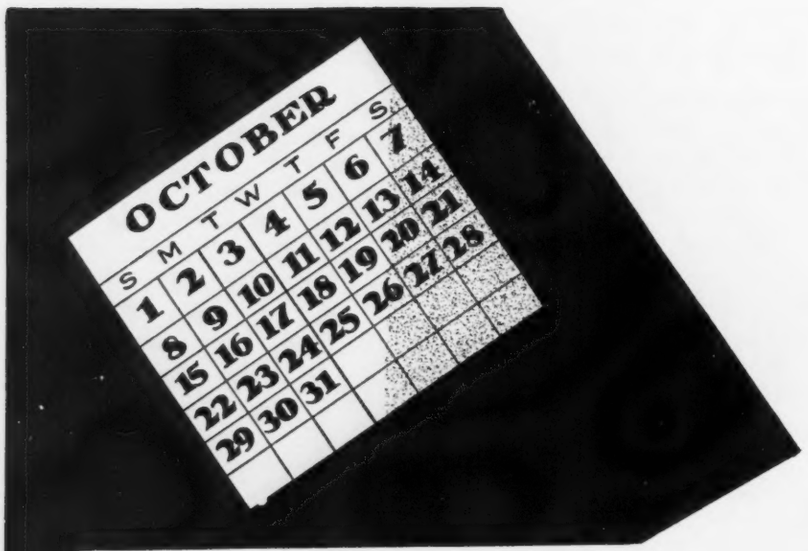
Further details gladly sent on request.

Southern Representative:
GIBBONS G. SLAUGHTER, First National Bank Bldg., Charlotte, N. C.

U. S. TEXTILE MACHINE CO.

314-316 DEPOT ST., SCRANTON, PA.

BUILDERS OF SILK AND RAYON THROWING MACHINERY



With fewer hours per week!.. give your Cards new, productive Clothing

SHORTER hours are going to help business. They have already done so. But under these conditions it behooves every mill man to let every machine produce at its best. Start with your cards. Because it is such a simple matter to look over your cards, to replace worn, dull clothing wherever needed. Old clothing is no economy—it hampers carding production, it lowers yarn quality. New, sharp clothing bites into the raw stock and does a fast, thorough job of carding. It's an economy you cannot overlook.

When you put new clothing on your cards, remember that Tuffer is sharp to begin with, and that the tough wire, in its special foundation, holds its edge long after you would expect replacement. Remember, too, that Tuffer Card Clothing is an old, well-established product, continuously improved. Today, as for many years past, it is at the top of the list with the majority of mill men.

Look to your cards now. For your own protection, send word through your mill that worn clothing must come off. And get in touch with the nearest Howard Bros. office for quick delivery.

HOWARD BROS. MFG. CO.
WORCESTER, MASS.

SOUTHERN PLANT:
244 FORSYTH ST.
ATLANTA, GEORGIA

BRANCH OFFICES:
DALLAS PHILADELPHIA
WASHINGTON, D. C.

TRADE MARK
TUFFER
REG. U.S. PAT. OFF.

Card Clothing

Howard Products

CARD CLOTHING
NAPPER CLOTHING
WIRE HEDDLES
CYLINDER FILLETS
DOFFER FILLETS
HAND STRIPPING CARDS
STRIPPER FILLETS
BURNISHER FILLETS
EMERY FILLETS
STRICKLES

TOP FLATS RECOVERED

Complete equipment for recovering top flats and Lickerins has been established at our Branch Factory, 244 Forsyth St., S. W., Atlanta, Ga. Prompt service is assured.

Extra sets of flats can be loaned to mills. A complete stock of Howard products are also carried at this plant ready for quick delivery.

THE RIGHT ANSWER
TO YOUR CLOTH ROOM PROBLEM

Our New
TYPE C SHEAR

Removes all those threads

Has the simplest, most reliable and most effective
AUTOMATIC SEAM PROTECTOR

Proved by mill experience to be
BEYOND THE TRIAL STAGE

A high speed machine that steps up production and cuts down mill costs

Tremendous saving over hand trimming.

Automatic Seam Protector does not have to follow any definite cycle. Can operate several times in quick succession.

Cutters protected not only from seams but also from any foreign substance.

Greatest safeguard to cutting parts.

Protection over the full width of the cloth.

Great reduction in cost of inspecting.

All parts easy to get at.

Used for Cotton, Rayon, Silk, or mixed goods.

Can be run with a Brushing Machine.

Arranged with Sewing Machine and Scray for long runs.

Built in all common widths.

Let us work with you for goods that look better and sell faster.

Write today to

CURTIS & MARBLE MACHINE CO.
WORCESTER, MASS.

Branch Offices: New York City; Philadelphia, Pa.; Greenville, S. C.

ALDRICH SYNCHRONIZED SINGLE PROCESS PICKING

Is The Best System For Changing Old Pickers To Single Process Equipment

Since it has been on the market, it has been applied to more pickers than any other system.

It is inexpensive, simple and compact.

There is nothing about it to adjust, and nothing to get out of order.

It is the only single process system which does not overload the evener, and a sluggish evener makes poor laps.

Aldrich Synchronizers can be attached to any other arrangement of single process picking and will give better results than you are now getting.

The Aldrich System costs so little to install that it pays an average return of over 100% annually on the investment.

Made and installed by

AldricH MachinE WorkS

Greenwood, South Carolina

Spinners Listen To Others . . . .
But Continue To Use . . . .

The Universal Standard Ring Travelers

The Bowen Special Temper
Narrow Round Point
Square Point
Flat, Oval and Round Wire
The Bowen Vertical Steel
The Bowen Vertical Bronze
The Bowen Patented Bevel Edge
The Bowen Patented Vertical Offset
The Bowen Patented Ne-Bow Vertical

For Spinning and Twisting

IF YOU REQUIRE . . . . .

1. *Uniformity*
2. *Uninterrupted and Dependable Performance*
3. *Longer Life*
4. *Quality Product*

First Quality Cotton, Wool, Worsted, Silk and Rayon Yarns are produced only by using ring travelers that dispel any doubt as to their performance and manufacture. . . . . UNIVERSAL STANDARD RING TRAVELERS . . . . . meet these requirements, and more, effect a gratifying saving in ring traveler costs by the extra measure of service and life they assure. . . . . Order them now . . . . . Samples mailed upon request

U. S. Ring Traveler Company

PROVIDENCE, R. I. GREENVILLE, S. C.

AMOS M. BOWEN, Treas.

Sales Representatives

NEW ENGLAND	Carl W. Smith
MID-ATLANTIC	Geo. H. H. Gilligan
SOUTHERN	Wm. P. Vaughan
	Oliver B. Land
	Torrence L. Maynard

A Traveler for Every Fibre

TOLERATE THIS?

. . . *Not for a second!*

YET *escaping* CURRENT-FOR-LIGHT IS JUST AS COSTLY

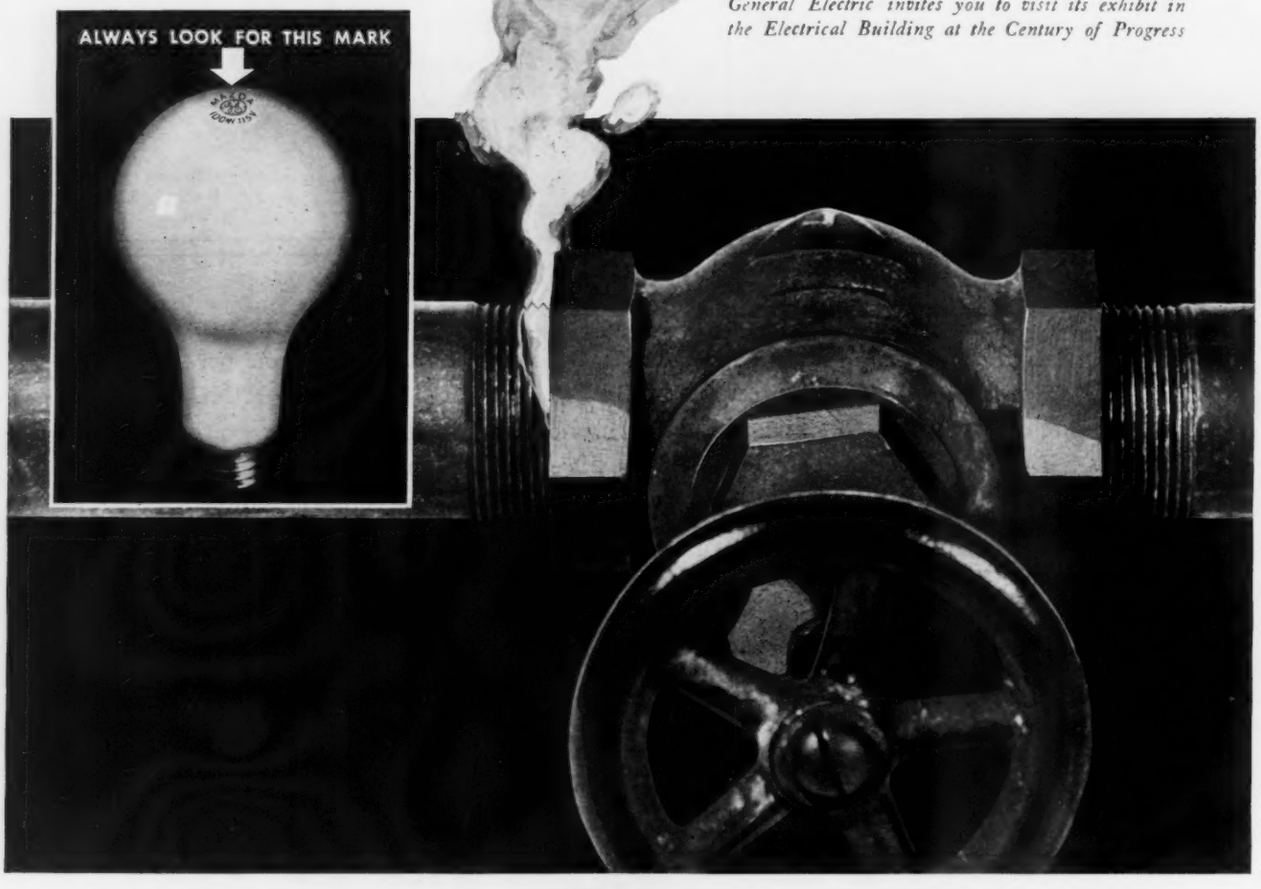
HISS! Hiss! Hiss! That's the song of the leaky steam valve! And it's sad music to the plant superintendent's ear. For the escaping steam is a visible and audible indication of wasted energy. No plant superintendent would tolerate it long.

Inferior incandescent electric lamps do not hiss a warning of waste, nor can the waste be seen. Yet inferior lamps waste electrical energy every second they burn, because they fail to give the utmost in light output for the current they consume. Thus they fail to make the most of a wonderful, inexpensive servant—electricity.

General Electric MAZDA lamps do not waste electricity. They give you a full dollar's worth of light for every dollar you spend for current.

Thus, for good light at low cost, be sure the lamps you buy bear the monogram GE. General Electric Company, Nela Park, Cleveland, Ohio.

General Electric invites you to visit its exhibit in the Electrical Building at the Century of Progress



GENERAL ELECTRIC

MAZDA LAMPS

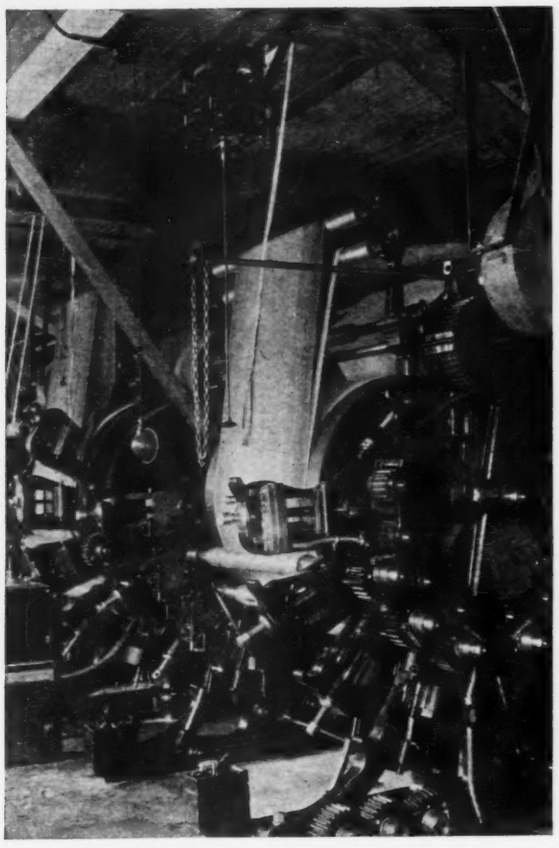
SPECIALIZED DRIVES

that assure

SMOOTH, ECONOMICAL OPERATION

for EVERY

FINISHING PLANT MACHINE



Printing machines in a New England finishing plant equipped with 40-hp. Westinghouse Motors and Magnetic Control.

THERE is a specialized Westinghouse motor drive for every type of cloth-finishing-plant machinery . . . whether printing machine, calender, mangle, washer, dryer, or Sanforizing range.

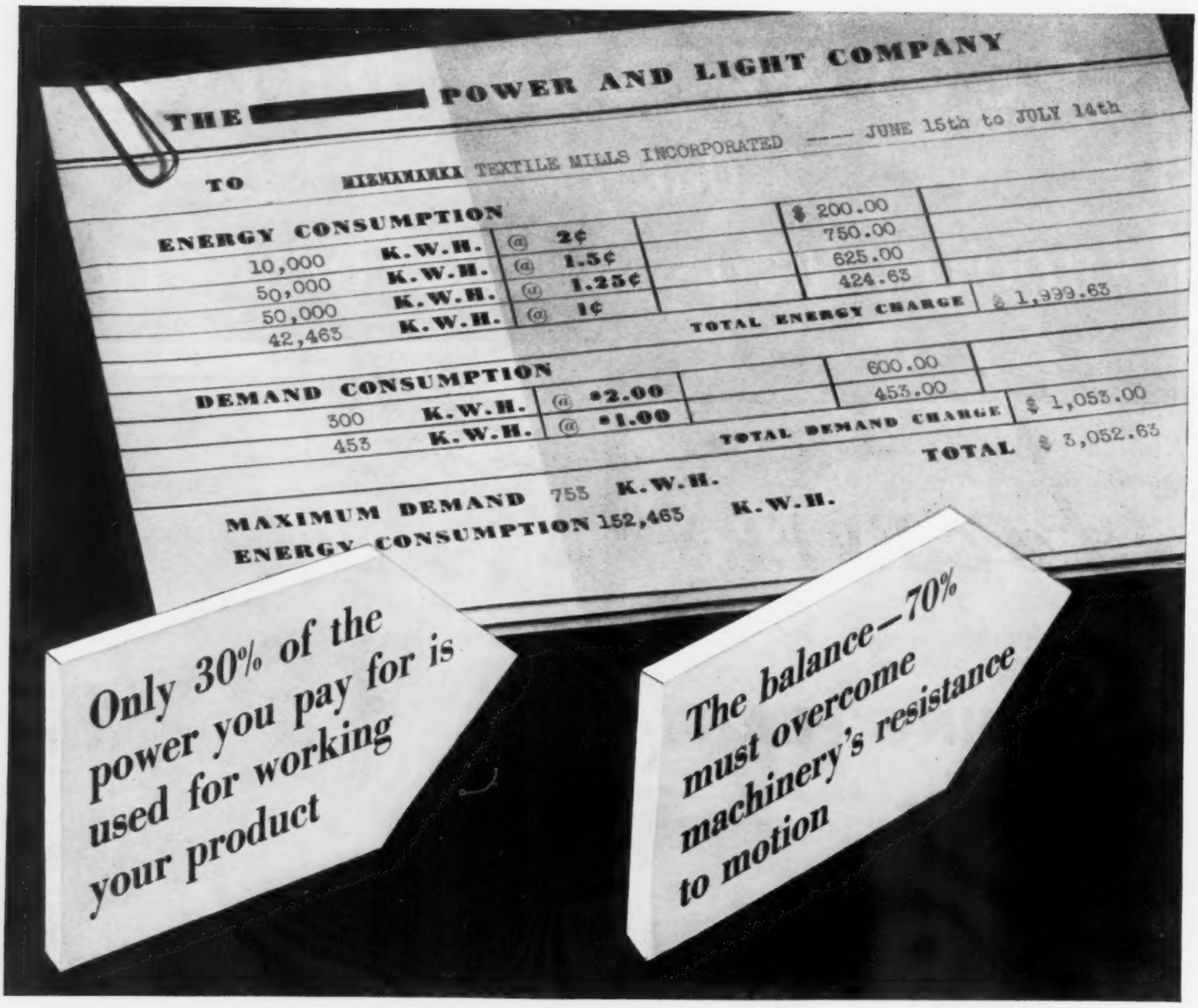
For years, Westinghouse engineers have had a thorough knowledge of finishing-plant problems and requirements.

They have developed a printing-machine drive that operates smoothly and economically from the slowest threading-in speed to maximum printing speeds. They have perfected range drives that assure unusual ease and flexibility of operation, lower power costs and the absolute minimum in maintenance expense.

Submit your finishing plant problems to an experienced engineer in the Westinghouse office near you. Without obligation, he will plan an economical layout to best meet your requirements. Westinghouse Electric & Manufacturing Co., Room 2-N, East Pittsburgh, Pa.

Westinghouse T 79720

Quality workmanship guarantees every Westinghouse product


THE [redacted] POWER AND LIGHT COMPANY
TO [redacted] TEXTILE MILLS INCORPORATED ---- JUNE 15th to JULY 14th
ENERGY CONSUMPTION
10,000 K.W.H. @ 2¢ $ 200.00
50,000 K.W.H. @ 1.5¢ 750.00
50,000 K.W.H. @ 1.25¢ 625.00
42,463 K.W.H. @ 1¢ 424.63
TOTAL ENERGY CHARGE $ 1,999.63
DEMAND CONSUMPTION
300 K.W.H. @ $2.00 600.00
453 K.W.H. @ $1.00 453.00
TOTAL DEMAND CHARGE $ 1,053.00
TOTAL $ 3,052.63
MAXIMUM DEMAND 753 K.W.H.
ENERGY CONSUMPTION 152,463 K.W.H.
Only 30% of the power you pay for is used for working your product
The balance—70% must overcome machinery's resistance to motion

Gargoyle Lubricants help leading mills reduce this resistance 5% to 10%

Let us consider a textile mill with an average monthly power bill of $5000. With ordinary lubricants in use, it is likely that in this mill $1500 buys enough power to work the product. The balance—$3500—*goes for power used to overcome machinery's inherent resistance to motion.*

Records of leading textile mills of every type show that Gargoyle Vactra X Oils and Gargoyle Velocite Oils, by providing proper film strength, reduce this frictional resistance as much as 10%.

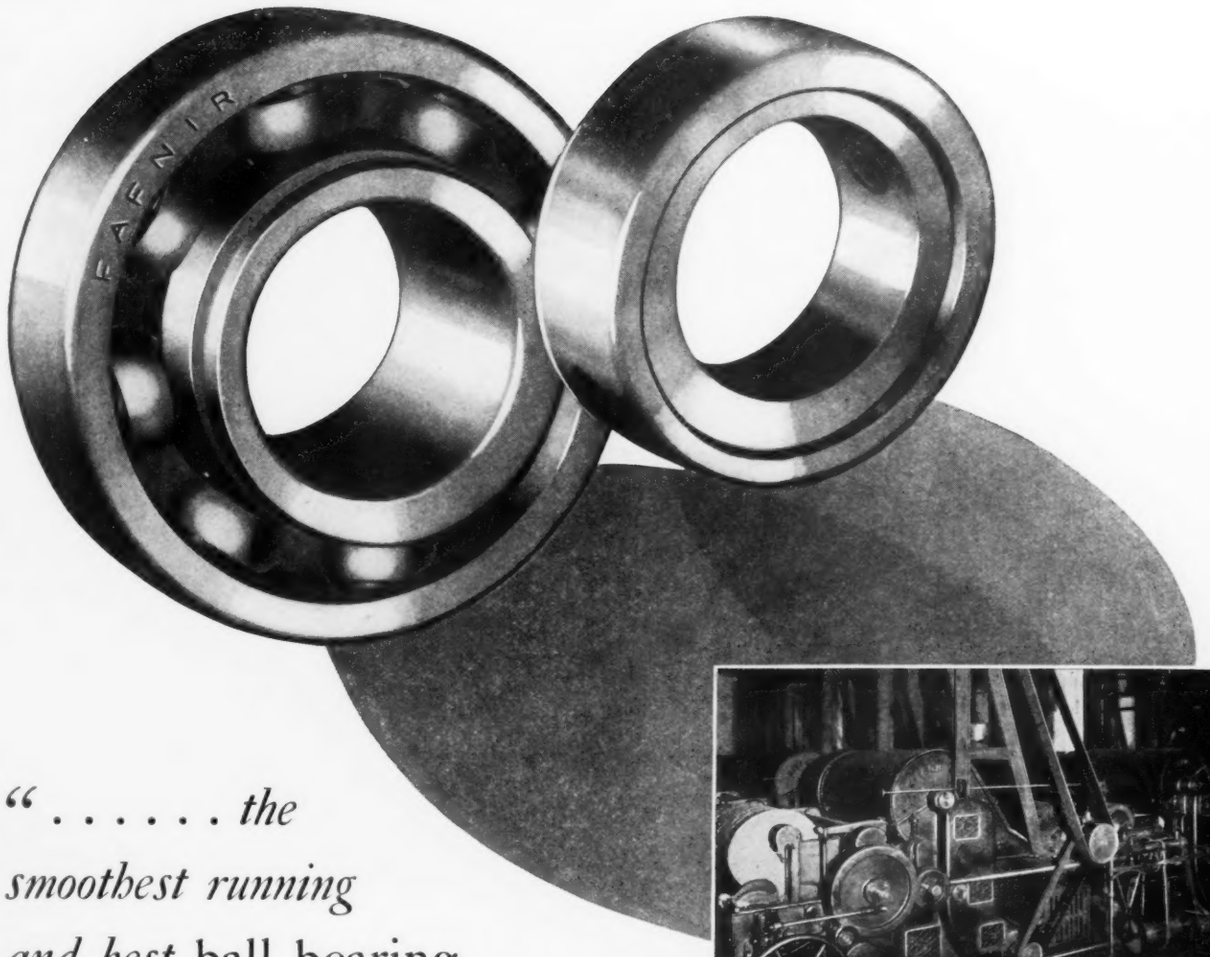
Suppose that by the use and correct application of Gargoyle Lubricants in your mill you could cut your frictional power consumption, say, only 3%. Even at that conservative figure, the savings you would make *would more than pay your entire annual oil bill.*

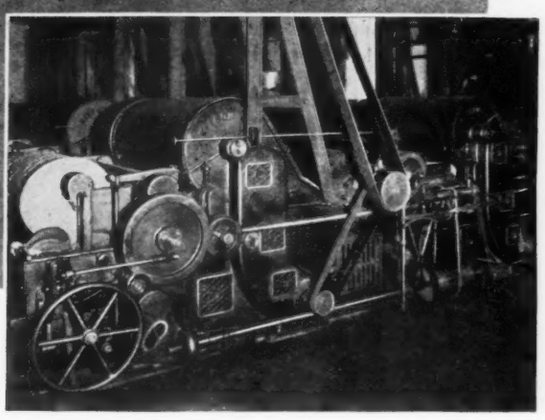
Doesn't it seem well worth your while to let a Socony-Vacuum representative show you results of power tests made in equipment similar to your own—to suggest ways by which Gargoyle Lubricants can reduce power consumption in your mill?

Socony-Vacuum Corporation, 26 Broadway, New York City. Branches and distributors in principal cities throughout the world.

GARGOYLE
Lubricating Oils

SOCONY-VACUUM
CORPORATION



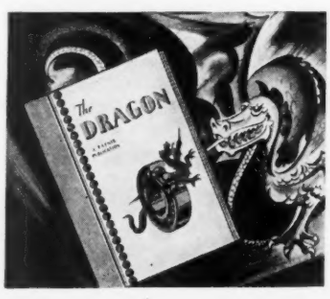


"..... the smoothest running and best ball bearing *application I have ever used"*

These are the words of Mr. J. A. Quinn, picker erection expert of Greenville, S. C., in describing his application of Fafnir Deep-Groove Self-Aligning Ball Bearings to the Quinn Three-Beater, One Process Hook-Up. The bearings are used on seven applications in addition to the beater and fan shafts. "An even running lap is secured. There is no loss of laps over periods of weeks at a time, even when held to within a quarter of a pound."

Seventy-five installations are behind this sincere endorsement of Fafnir Ball Bearings. In his appreciation of these fighters of friction and wear, Mr. Quinn is in accord with a host of builders and users of textile machinery. In machines of all kinds, as well as lineshaft boxes and pillow blocks, Fafnir Ball Bearings have proved their value in improving performance, saving power and miminizing maintenance. And there are no wedges to adjust or work loose.

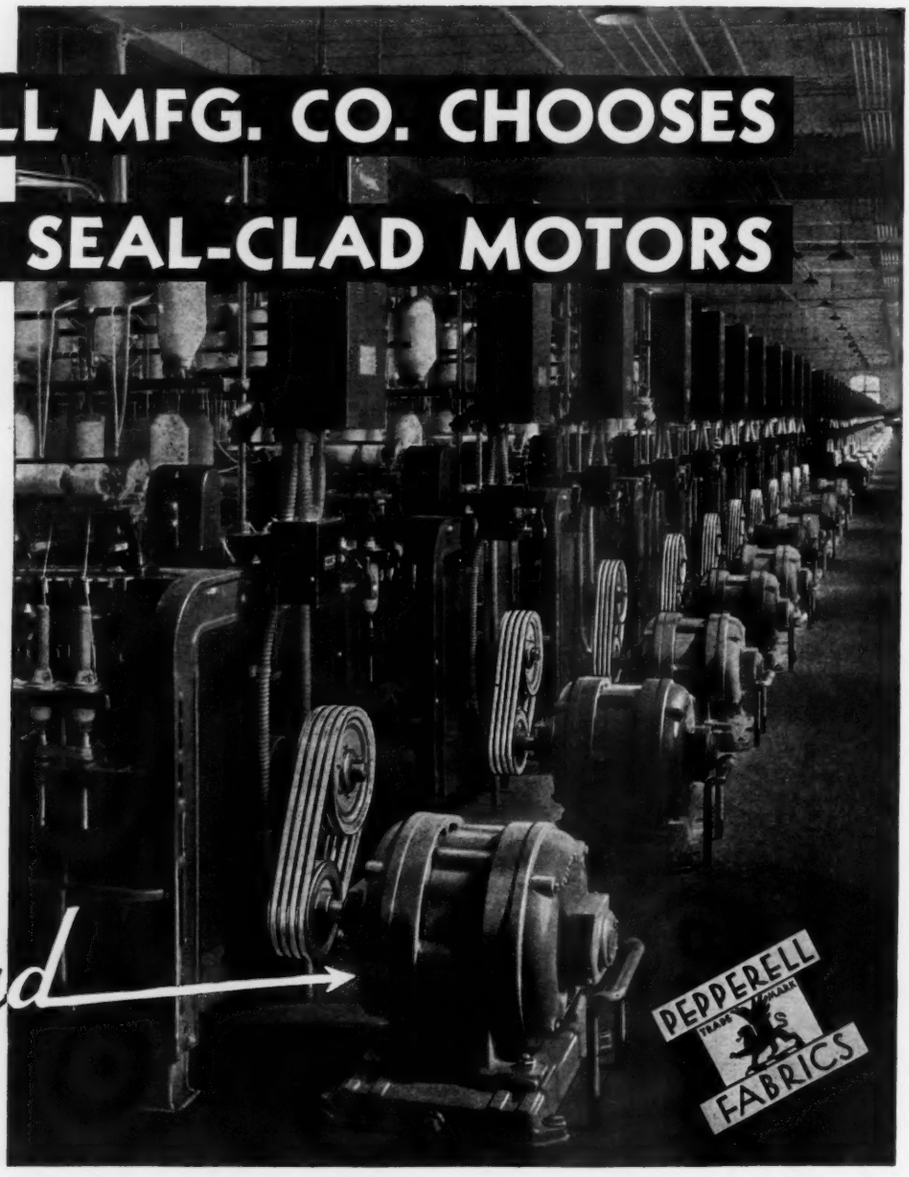
Bear in mind the fact that Fafnir makes a line so complete as to assure the most efficient bearing for any application. It's one of the features of Fafnirs which assures economical performance. THE FAFNIR BEARING COMPANY, *New Britain, Conn.* Representatives also at Atlanta . . . Charlotte Dallas . . . Houston . . Birmingham . . . Boston.



Read "THE DRAGON" FACTS *such as these in all types of applications are given in "The Dragon". If you're not receiving a copy regularly, please let us know.*

FAFNIR BALL BEARINGS

PEPPERELL MFG. CO. CHOOSES SEAL-CLAD MOTORS



Seal-Clad

THESE Allis-Chalmers textile motors in the plant of the Pepperell Mfg. Co., Lindale, Georgia, are of the new Seal-Clad type. They require no screens or other devices for excluding lint or dust. Unobstructed air passages and smooth surfaces of all parts in the air paths permit free travel of lint or dust with the ventilating air.

This new design provides for cartridge type ball bearings or waste packed sleeve bearings, long leads for flexible conduit, and straight or tapered shaft extension.

SEND FOR DESCRIPTIVE LEAFLET 2155

Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

TEXTILE MILL PRODUCTS

Motors for all Mill Applications
Texrope V-belt Drives
Rotary Compressors
Centrifugal Pumps
Underwriters' Fire Pumps
Steam Turbines - Generators
Steam Engines - Condensers
Hydro-Electric Units
Transformers - All types

ALLIS-CHALMERS
TEXTILE MOTORS

Is Oil DAMAGING Your GRAY GOODS in Process ?

Main Applications for Bronze Graphited Bearings in Textile Machines

Picker Evener Shafts
Card Tap Flats
Card Feel Roll Drive Shafts
Feed Rolls
Drawing Calender Rolls
Coiler Shafts on Cards and Drawing
Speeder Drive Heads
Intermediates
Slubbers
Spinning Frame Heads
Spinning Cylinders
Warpers
Spooler Cylinders
Slashers
Loom Harness Motion Shafts
Loom Rocker Shafts
Loom Cam and Crank Shafts
Dobby Head Shafts
All Loose Pulleys in Mill

Eliminate bearings that drip oil and damage gray goods.

Eliminate bearings that wear out quickly when not flooded with oil.

SOUND ENGINEERING should govern the selection of bearing for each application to obtain trouble-free, economical performance. Johnson Bronze Graphited Bearings wear a long time without oiling—just a few drops of oil, infrequently, give outstanding trouble-free service and stop oil drip damage to gray goods in process—the ideal bearing for textile plant machines.

For over 25 years Johnson Bronze has advocated and recommended sleeve type bearings for those applications, ONLY, where there is a SOUND ENGINEERING reason.

Eliminate the waste caused by bearing misapplication—consult with Johnson Bronze.

Solid and Cored Phosphor Bronze Bars

Available Through Your Local Mill Supply Distributor

Virgin Metal—Analysis 80-10-10. Cored Bars Semi-Finished I D and O D insures uniform wall thickness and ease in machining—eliminates blow holes and sand pockets—saves time, tool expense and waste. 185 stock sizes. Solid Bars O D semi-finished and centered for turning. Graphited Bars also available.

JOHNSON BRONZE

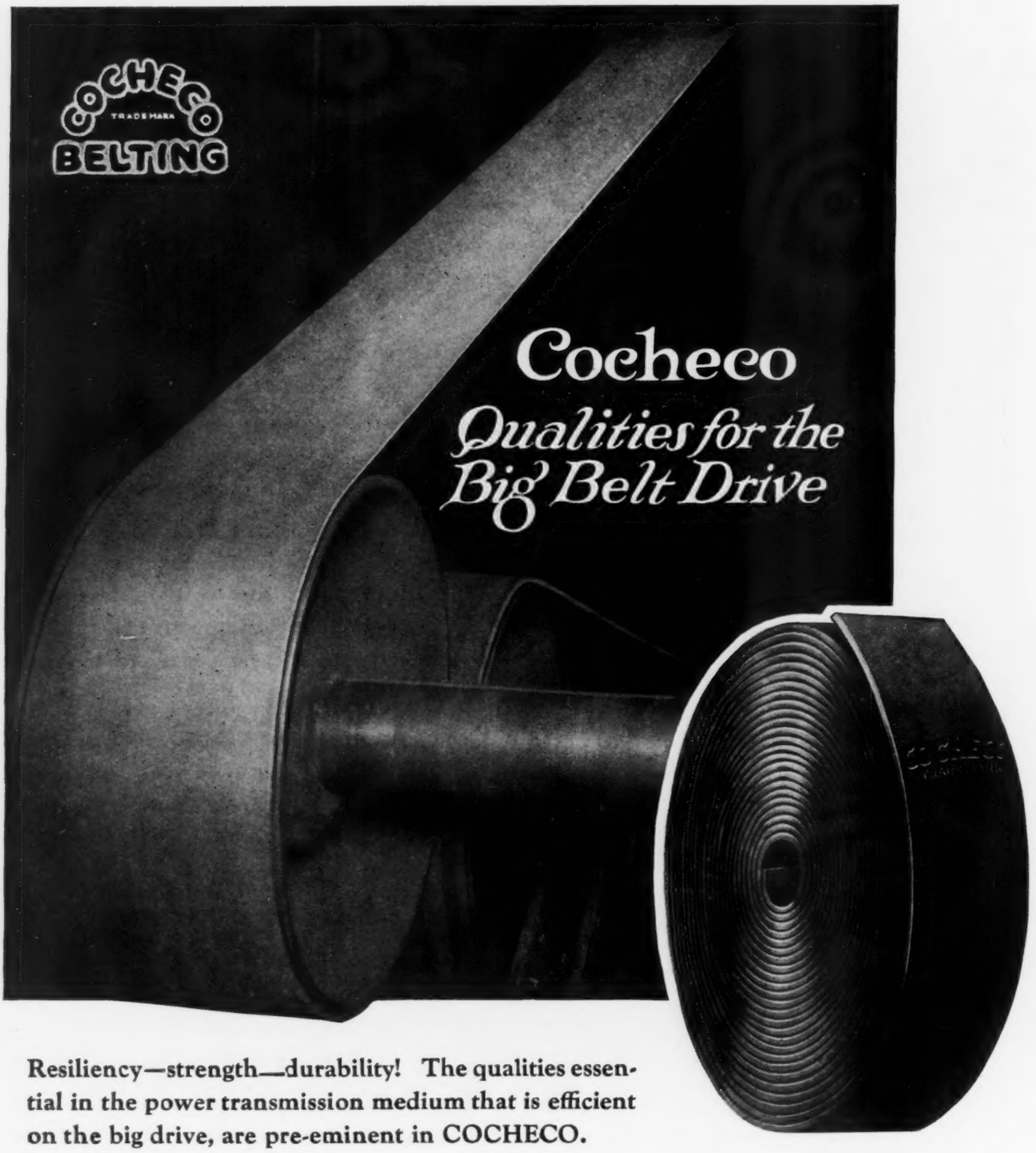
Factory and General Offices, New Castle, Pa.

Products of Johnson Bronze

Plain Cast Bronze Bushings
Cast Bronze Graphited Bushings
Bronze Backed Babbitt Lined Bearings
Locomotive and Mill Bronzes
Solid and Cored Bronze Bars

NRA MEMBER U.S. WE DO OUR PART

Plain Sheet Bronze Bushings
Sheet Bronze Graphited Bushings
Steel Backed Babbitt Lined Bearings
Car Brasses
Miscellaneous Bronze and Brass Castings



Resiliency—strength—durability! The qualities essential in the power transmission medium that is efficient on the big drive, are pre-eminent in COCHECO.

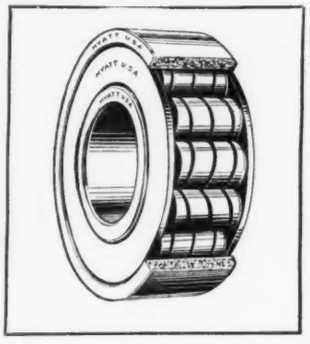
Leather belting has inherent advantages for certain types of drives. COCHECO Belting is quality leather correctly tanned and treated for the purpose and offers simple honest belting value that insures the *best in belting service* for the big belt drive or wherever leather is correct usage.

Our "Book on Belts" tells all about* COCHECO—*how it is produced and why it is so satisfactory on thousands of drives in all parts of the world. May we send it?

I. B. Williams & Sons, Dover, New Hampshire

DETROIT CHICAGO GREENVILLE, S. C. NEW YORK PHILADELPHIA

Calling the Roll of Roller Bearing LOOMS



Consult some of these mills on their Hyatt-equipped looms and you will see why it pays to specify Hyatt Roller Bearings for all equipment.

ABERFOYLE
AMERICAN SILK
AMERICAN WOOLEN
BIBB
BIGELOW-SANFORD
BLACKSTONE WEAVING
BOTANY WORSTED
BURLINGTON MILLS
CANADIAN CELANESE
CAROLINA COTTON
CELANESE CORPORATION
CHARLOTTESVILLE WOOLEN
CHENEY SILK
DUPLAN
FARR ALPACA
JULIUS FORSTMANN
GAMBRILL & MELVILLE
GLEN RAVEN
HIGHTSTOWN RUG
HODGES CARPET
F. C. HUYCK
JEFFERSON WOOLEN
KATTERMAN & MITCHELL
KARAGHEUSIAN
LORRAINE
MAGEE CARPET
MID STATE
NATIONAL WEAVING
NAUMKEAG
NEWMARKET
PEERLESS WOOLEN
PORTLAND WOOLEN
SANFORD MILLS
SKINNER
SOUTHERN BRIGHTON
ST. MARY'S WOOLEN
STEHLI SILK
M. T. STEVENS
UXBRIDGE WORSTED
WAYPOYSET
YORKSHIRE WORSTED

Twenty years ago, the first purchaser of a a Hyatt-equipped loom was perhaps looked upon as a pioneer — a man willing to take a chance.

But now things are different — mill men are cost minded — they know the advantages of modern money saving equipment—and the one who does not specify Hyatt Roller Bearings on his loom purchases today is the fellow who runs the risk.

To ignore the application of these modern bearings at all the wear points of the loom is to ignore reduced power bills, reduced spoilage, reduced supply and maintenance expense. Because that is what Hyatt Roller Bearings do for looms—they help produce more and better goods at less cost.

That they are successfully doing this is best demonstrated by the number of leading mills shown in this roll call, which is but part of the many old, and some of the more recent, satisfied users of Hyatt-equipped looms.

HYATT ROLLER BEARING COMPANY — NEWARK, N. J.

HYATT
ROLLER BEARINGS
PRODUCT OF GENERAL MOTORS

SALES BUILDERS

The necessity of merchandising textile products skillfully will remain no matter how successful Administrative recovery efforts become.

Establishment of distinctive brands through use of labels, hang tags, bands, etc., is becoming clearly recognized as a fundamental adjunct to profitable merchandising.

Our experience of many years in the design of textile branding media coupled with adequate mechanical facilities for their production in the heart of the South's great cotton mill region are yours to command.

JACOBS GRAPHIC ARTS COMPANY
CLINTON___SOUTH CAROLINA

The NEW CODE of Cost Cutting

WHEN you signed the new code you unconsciously, perhaps, adopted a new code of cost cutting also. You challenged yourself with this question, "How good an operator am I? Can I eliminate unnecessary maintenance costs, needless production waste and thus legitimately within my own costs find further sources of profit?"

With wages a fixed item, working hours definitely specified, prices agreed upon, just where are YOU going to turn to find extra profits from within YOUR own costs?

Alemite suggests a practical and profitable beginning. Look to your lubrication methods and to your lubricants. How much can you save through the elimination of the 80% of repair bills due to faulty lubrication? How much can you save through the reduction in lubrication time and the amount of lubricant used? How much can you save by the maintenance of full production speed without needless shutdowns for repairs?

The savings made possible by the simple installation of Alemite Push Type Fittings and the use of Genuine Industrial Alemite Lubricants amounts to a large figure in the nation's greatest mills.

Why take a loss on lubrication when a complete Alemite Program means SAVINGS AND EXTRA PROFITS?

ALEMITE CORPORATION (Division of Stewart-Warner) 793
1884 Diversey Parkway, Chicago, Illinois

Gentlemen:—Please inform me, without obligation, of the extra profits through savings in cost which Alemite can provide us.

Name .....

Address .....

Company .....

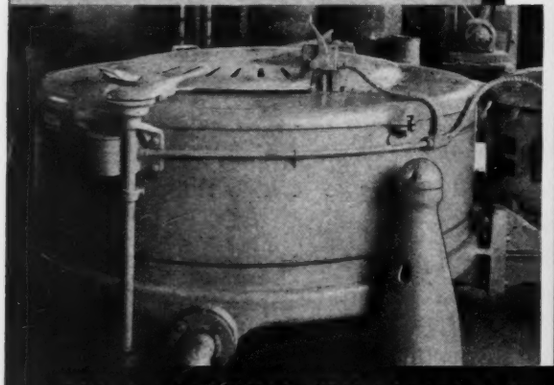
City ..... State .....

PIONEERS IN SPECIALIZED LUBRICATION FOR INDUSTRY

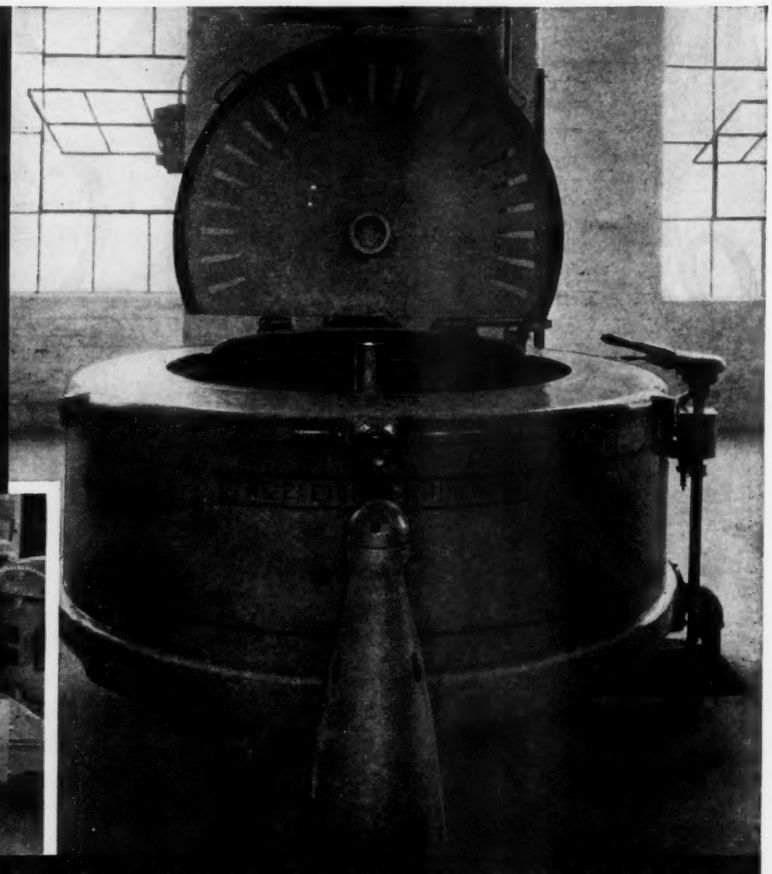
TAKES *rough treatment...* *but* GIVES *none!*

This 60" Extractor with MONEL METAL Basket at The Snow White Bleachery...

built by Fletcher Works, Inc., safely handles everything from cotton underwear to rayon tape...



● Side view of a 60" Fletcher Whirlwind extractor in the plant of The Snow White Bleachery, equipped with Monel Metal basket and manufactured by the Fletcher Works, Inc.



● Front view, with cover lifted to show Monel Metal basket, of the 60" Fletcher Whirlwind extractor at The Snow White Bleachery, Royersford, Pa. Built by the Fletcher Works, Inc., Philadelphia, Pa.

● This big 60" extractor, with Monel Metal basket, is used for bleached and dyed cotton underwear, towelling and tapes of silk, rayon and wool.

Being absolutely rust-proof and highly resistant to corrosion, Monel Metal equipment doesn't discolor even the most delicate fabrics. There are no rough surfaces or sharp edges on this glassy-smooth Nickel alloy to tear or damage fragile fibres.

The superior goods that result are *less* costly to produce than inferior products! For Monel Metal equipment is easily and inexpensively cleaned...and repairs and replacements are so rare that the maintenance costs are cut to the bone.

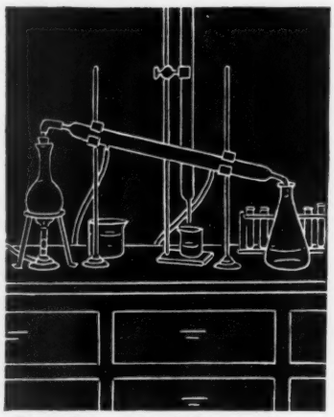
For Monel Metal is strong as steel ...it withstands the severe stresses set up by centrifugal force, even at highest speeds; as well as the inevitable daily abuse of dyehouse operation. Furthermore, Monel Metal extractor baskets are solid metal right through...no coating to chip, crack or wear off. That's why progressive dyehouses, laundries and dry-cleaning plants are also insisting on Monel Metal bleaching equipment, tanks, table tops, pump rods, plant trucks, utensils and accessories, as well as other Monel Metal machinery.

Your regular manufacturer will gladly give you complete information. Or, if you prefer, write to us for our Illustrated Buyers' Guide and Catalog of Monel Metal for the Textile Industry.

• • •

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET, NEW YORK, N. Y.

PEROXIDES *must be* STABLE



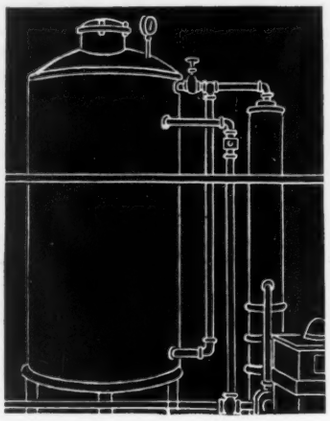
Peroxides made to full-strength . . .

if they are to have a full content of bleaching oxygen when you use them. Of course, they must first be made to full specified strength. But for your protection they must be full-strength *and* stable.

You can always depend on ALBONE* C and SOLOZONE* containing their full content of available bleaching oxygen after long periods of storage under proper conditions. Before shipment these peroxides must pass stability tests far more severe than any encountered under actual storage conditions. Other tests, too, show that they meet high specifications on strength and purity . . . that shipment after shipment is uniform.

and remaining stable in storage . . .

The stability . . . full-strength . . . uniformity of ALBONE C and SOLOZONE are your assurance of simplified, dependable peroxide bleaching. Our Technical Service will gladly demonstrate the advantages of these peroxides in your process. For information, simply address E. I. du Pont de Nemours & Company, Inc., The R. & H. Chemicals Department, Wilmington, Delaware.



have a full content of bleaching oxygen when you use them.

* * * *

ALBONE C is du Pont Hydrogen Peroxide, 100 volume electrolytic, containing approximately 13% by weight of available bleaching oxygen. SOLOZONE is du Pont Sodium Peroxide, containing 20% + of available bleaching oxygen. Both can be shipped promptly in commercial quantities from stocks carried in principal distribution centers.

*Reg. U. S. Pat. Off.

DU PONT
REG. U.S. PAT. OFF.
R&H Chemicals
REG. U. S. PAT. OFF.

The R. & H. Chemicals Department

E. I. DU PONT DE NEMOURS & COMPANY, INC.

WILMINGTON - - DELAWARE

Baltimore Boston Charlotte Chicago Cleveland Kansas City
Newark New York Philadelphia Pittsburgh San Francisco

Automatic Control WIPES OUT *Costly Peaks!*

Keeps your water supply uniformly soft . . . reduces process difficulties

SOAP curds—"hungry" spots—sub-standard quality, vicious effects of hard water! Throughout the textile industry zeolite water softeners have been installed to root out these troubles and take all hardness out of the water supply before it enters the mill.

A simple, efficient and money-saving solution to a troublesome problem. But there is still an unknown factor—the human element. If the operator of the softener follows instructions, regenerates on time, with thorough washing and correct dosage of salt, all is well. But often other duties interfere, the softener overruns, "shots" of improperly treated water enter the process work, costs rise to a sharp peak.

This is a condition possible in any mill. But now it can be ended permanently.

Permutit automatic control never forgets. Even regeneration and back-washing are automatically carried out without any attention on the part of the operator. Periodic loading of salt into the brine saturator is the only attention the equipment requires.

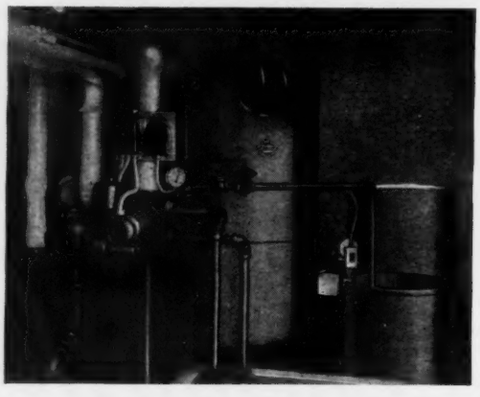
So efficient is Permutit's Automatic Control that soft water is produced at a lower cost per thousand gallons than ever before. Since present equipment can be inexpensively converted to automatic operation, the conversion charge is quickly returned by additional savings.

Automatic zeolite water softeners are the latest addition to Permutit's line of water treating equipment. Hardness, dirt, color, iron, oil, manganese, taste can all be removed from water.

Write for a copy of our bulletin on Automatic Control—it's free of cost or obligation. Included with it will be "Reducing Textile Costs & Troubles"—a 24-page fact-full book that you will find of great interest. Send for your copies today. The Permutit Company, 330 West 42nd Street, New York, N. Y.

7 POINTS OF SUPREMACY

1. All operations automatically carried out under precise control.
2. Completely softened water—no overrunning, no under-regeneration.
3. Thorough washing assures clean, active zeolite.
4. Saves salt—uses only the absolute minimum required.
5. Less floor space—more salt storage.
6. Most efficient zeolite water softener ever built.
7. Automatic features can be applied to any existing zeolite water softener.



Permutit *Water Treating Equipment*

PAYS FOR ITSELF

FULLING SOAPS *containing* YARMOR

Produce Quality Results

Ask your textile chemical manufacturer for a fulling soap containing Yarmor Steam-distilled Pine Oil. Soaps of this type help you to produce superior results because:

1. They rinse easily, quickly, and thoroughly.
2. They help to eliminate rancidity in storage.
3. They eliminate the precipitation of insoluble lime soaps on the stock.
4. They insure uniform results in the dyeing and finishing operations.
5. They eliminate the stagnant smell around fulling machines.

NRA MEMBER U.S. WE DO OUR PART

Steam-distilled Pine Oil
Steam-distilled Wood Turpentine
Wood Rosin
Alpha Terpineol
Commercial Abietic Acid
Abalyn
Nitrocellulose
Chemical Cotton

Ask your textile chemical manufacturer about fulling soaps containing Yarmor.

HERCULES NAVAL STORES

HERCULES POWDER COMPANY
INCORPORATED

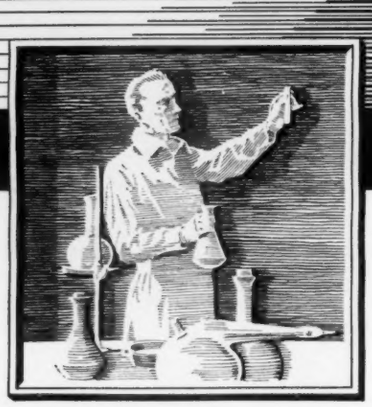
995- *King Street* *Wilmington, Delaware*

Branch Offices: Chicago, New York, St. Louis, Salt Lake City, San Francisco

00-22

GRASSELLI FORMIC ACID

85% and 90% Commercial



PROGRESSIVE manufacturers who are using Formic Acid will tell you it gives more satisfactory results — results not always obtainable with other acids.

As an exhaust in the dye bath, Formic Acid produces brighter shades and saves dye by more complete exhaust.

Used on wide variety of dyes and fabrics.

THE GRASSELLI CHEMICAL COMPANY
CLEVELAND INCORPORATED **OHIO**

New York and Export Office: 350 Fifth Avenue

ALBANY	CHARLOTTE	DETROIT	NEW ORLEANS	SODUS, N.Y.
BIRMINGHAM	CHICAGO	MILWAUKEE	PHILADELPHIA	ST. LOUIS
BOSTON	CINCINNATI	NEW HAVEN	PITTSBURGH	ST. PAUL

SAN FRANCISCO, 584 Mission Street LOS ANGELES, 2260 East 15th Street

Represented in Canada by CANADIAN INDUSTRIES, LTD.,
Acids and General Chemicals Division—Montreal and Toronto

GRASSELLI

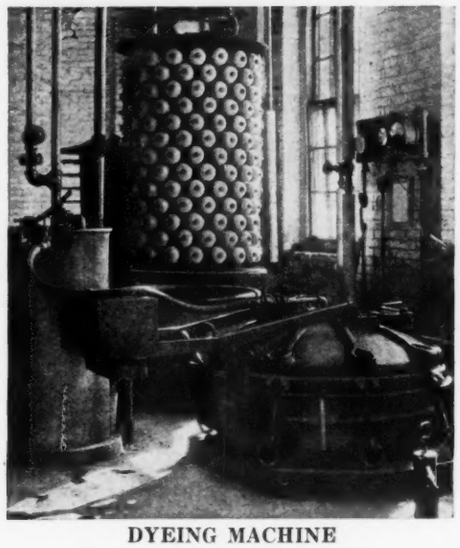
Other Grasselli Chemicals For Textile Manufacturers

Acetic Acid
Acetate of Soda
Acetate of Lead
Alums, U. S. P.
Aqua Ammonia
Barium Chloride
Bi-Chromate of Soda
Bi-Sulphate of Soda
Bi-Sulphite of Soda
Carbonate of Soda
Caustic Soda, Solid and Flake
Chloride of Lime
Chloride of Zinc
Epsom Salts
Glauber's Salt
Lactic Acid
Muriatic Acid
Nitric Acid
Oxalic Acid
Phosphate of Soda
Silicate of Soda
Sulphate of Alumina
Sulphate of Soda, Anhydrous
Sulphite of Soda
Sulphide of Soda
Sulphuric Acid
Tri-Sodium Phosphate

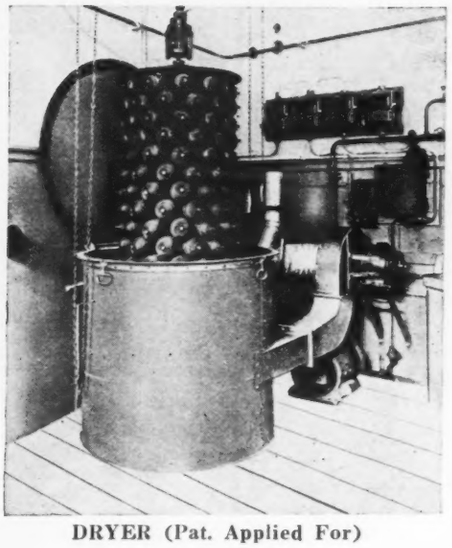
GRASSELLI GRADE

A Standard Held High for 94 Years

At last!



DYEING MACHINE



DRYER (Pat. Applied For)

Obermaier

Reg. U. S. PATENT OFFICE

PACKAGE DYEING & DRYING

DONE IN A NEW COMPLETE CYCLE

The dyed material carrier is dried in 2½ hours.

No more extractors necessary and all such labor eliminated.

The dyed and dried packages remain clean and in their original form.

The same system applies to:

ROVING, SLUBBING, BEAM DYEING and DRYING.

PLEASE INVESTIGATE

AMERICAN OBERMAIER CORPORATION

11-20 FORTY-NINTH AVENUE LONG ISLAND CITY, N. Y.

IN BANKING

Why Not In Textile Processing?

ARNOLD-HOFFMAN PRODUCTS

Sizing Gums
Sizing Compounds
Soluble Gums
Soluble Oils
Softeners
Tallow
Waxes
Dextrines
Starches
Pigment Colors and Lakes
Acids
Borax
Ammonia
Blue Vitriol
Bichromate Soda
Bichromate Potash

BELLE BRAND:--

Liquid Chlorine
Bleaching Powder
Caustic Soda (solid and flaked)

Group diagnosis and prescription is a long accepted principle in banking. This is necessarily so because the investment and loan of large sums of other people's money is too important a matter to leave to the limited experience and prejudices of any one man, no matter how competent he may be.

Textile processing has also reached the point where it practically demands group diagnosis and prescription. The situation has been complicated by the introduction of new fibres and rapid developments in chemical science, including new processing methods as well as new chemical products. Then again style and profit requirements necessitate frequent changes in production which in turn often require a change in processing materials and methods. And these changes must be made more quickly than ever due to the demand for more prompt deliveries.

Under these conditions no one man's experience can be equal to every processing situation, no matter how competent he may be. To save time, to increase efficiency and to avoid costly errors he must utilize the experience that comes from group diagnosis and prescription.

Arnold-Hoffman consulting service, which is FREE to all A-H customers, supplies this modern need. It is ideal of its kind. This company is large enough to afford the best in laboratory equipment and technical personnel. Being manufacturers, we *know* processing materials as well as processing methods. Last but not least our experience with textile processing problems extends over a period of more than a century. And you know that—"experience is the best teacher."

Arnold, Hoffman & Co., Inc.

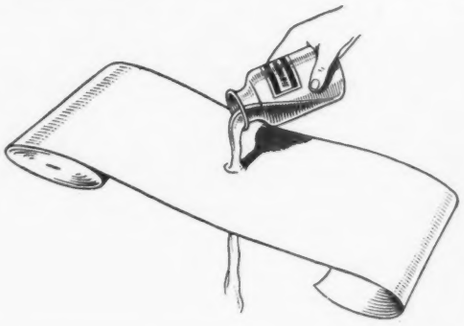
Established 1815

Providence · New York · Charlotte · Philadelphia · Boston

Use SUPERTEX ... FOR

TRADE NAME REGISTERED AND PROCESS PATENTED

APPLICATION PRINTING ON ACETATE SILKS



You'll get thorough penetration and full color values with this scientific printing gum.

SUPERTEX has no equal for penetration. Because of the complete solubility and absolute purity of Supertex, the dyestuff is uniformly distributed throughout the printing paste and carried right into the fibre. It is not merely deposited on the surface of the material. This thorough and uniform penetration of the printing paste gives sharp outlines and uniform color values.

After steaming, the decomposition products of the dyestuff are readily removed by a light wash, leaving the goods soft and strong, and retaining the full bright shades of color.

Supertex is clear and transparent, and free from impurities. It does not harshen or dull the fibre. Recent tests have proved the merits of this scientific printing gum for application printing on acetate silks.

FREE! Supertex Samples for Your Own Testing.

We suggest an immediate comparison of Supertex with any product you now use—your own tests will convince you of the many fine and superior qualities of this printing gum. Write today for your free sample.

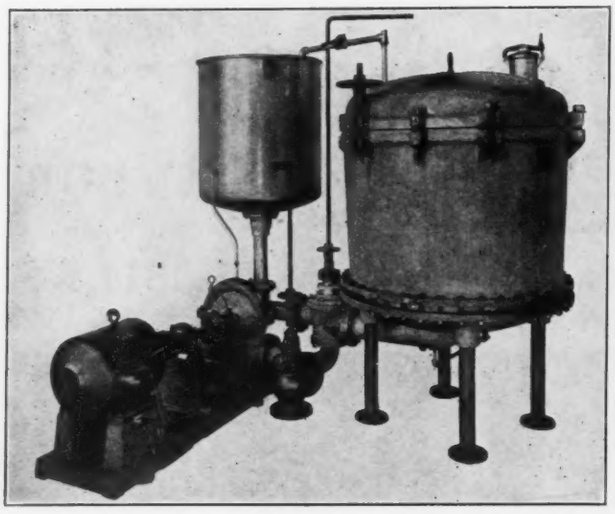
A print made with Supertex. Note the complete penetration of the printing, evident from a glance at the right and reverse sides of the cloth.

JACQUES WOLF & CO.

Manufacturing Chemists and Importers

PASSAIC, N. J.

WAREHOUSES: · PROVIDENCE, R. I. · PHILADELPHIA, PA. · UTICA, N. Y. · CHICAGO, ILL. · CHATTANOOGA, TENN. · GREENVILLE, S. C.



FRANKLIN PROCESS PACKAGE DYEING MACHINE

FRANKLIN PROCESS RAW STOCK DYEING MACHINES

CUT PROCESSING COSTS WITH A TRIED AND PROVED PRINCIPLE

FRANKLIN PROCESS means circulating the processing bath through the material, in a closed kier, by means of hydraulic pressure.

This process was first used in 1910 to color yarns in the wound or package form. As soon as the invention had passed the experimental stage, it was rapidly adopted, not only in the United States, but also in other textile countries. There are probably more cotton yarns dyed in the United States to-day by the Franklin Process than by any other method (other kinds of yarn are also dyed by this method). The four custom dyeing plants of the Franklin Process companies alone in some years have dyed over 15,000,000 pounds.

The most characteristic feature of Franklin Process yarn dyeing is the Franklin spring tube, which permits the Franklin packages to be compressed, one on top of another, on perforated spindles. The softer packages are naturally compressed more than the harder packages. Thus the density of all packages is equalized and uniform penetration of the dye is facilitated.

Franklin Process also offers rigid tube package machines, if desired.

The biggest advantage of Franklin Process package dyeing is that it eliminates the extra winding operations and attendant waste incidental to long chain and skein dyeing.

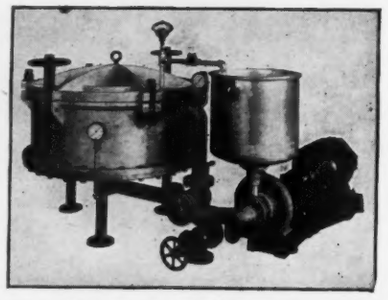
In later years the Franklin Process has been adapted to the processing of wool and cotton raw stock and rags. In this field also it has met with marked success, now being used by most of the leading woolen mills in the United States and to some extent for cotton. In addition to reducing labor costs and increasing production, this process leaves the stock in such superior condition that important savings are effected in subsequent manufacturing operations. It usually shows a return on the investment of from 25 per cent to well over 100 per cent per annum.

The most recent application of the Franklin Process is in silk soaking. Here the Process has changed silk soaking from an overnight operation to an operation requiring only 30 to 60 minutes. At the same time it does an equally good or better job than does open tub soaking and effects a saving in soaking materials of about 25 per cent. It also does more even tinting than the usual tub soaking.

PURCHASE ON PERFORMANCE

Careful estimates indicate that a Franklin Process silk soaking machine, with a production of 9 bales a day, will pay for itself well within a year. The machine is more widely used than any other silk soaking machine on the market.

It is evident, from the foregoing, that when you use Franklin Process machines to cut processing costs, you are depending on a tried and proved principle.



RAYON AND SILK SOAKING MACHINE

FRANKLIN PROCESS COMPANY
PROVIDENCE, R. I.

FRANKLIN PROCESS

DYEING AND SILK SOAKING MACHINES

You can't CUT CORNERS and still produce QUALITY!

Gone are the days of buying "for price only"! A distinct change from the past few years when buyers have been thinking about bargains and forgetting quality.

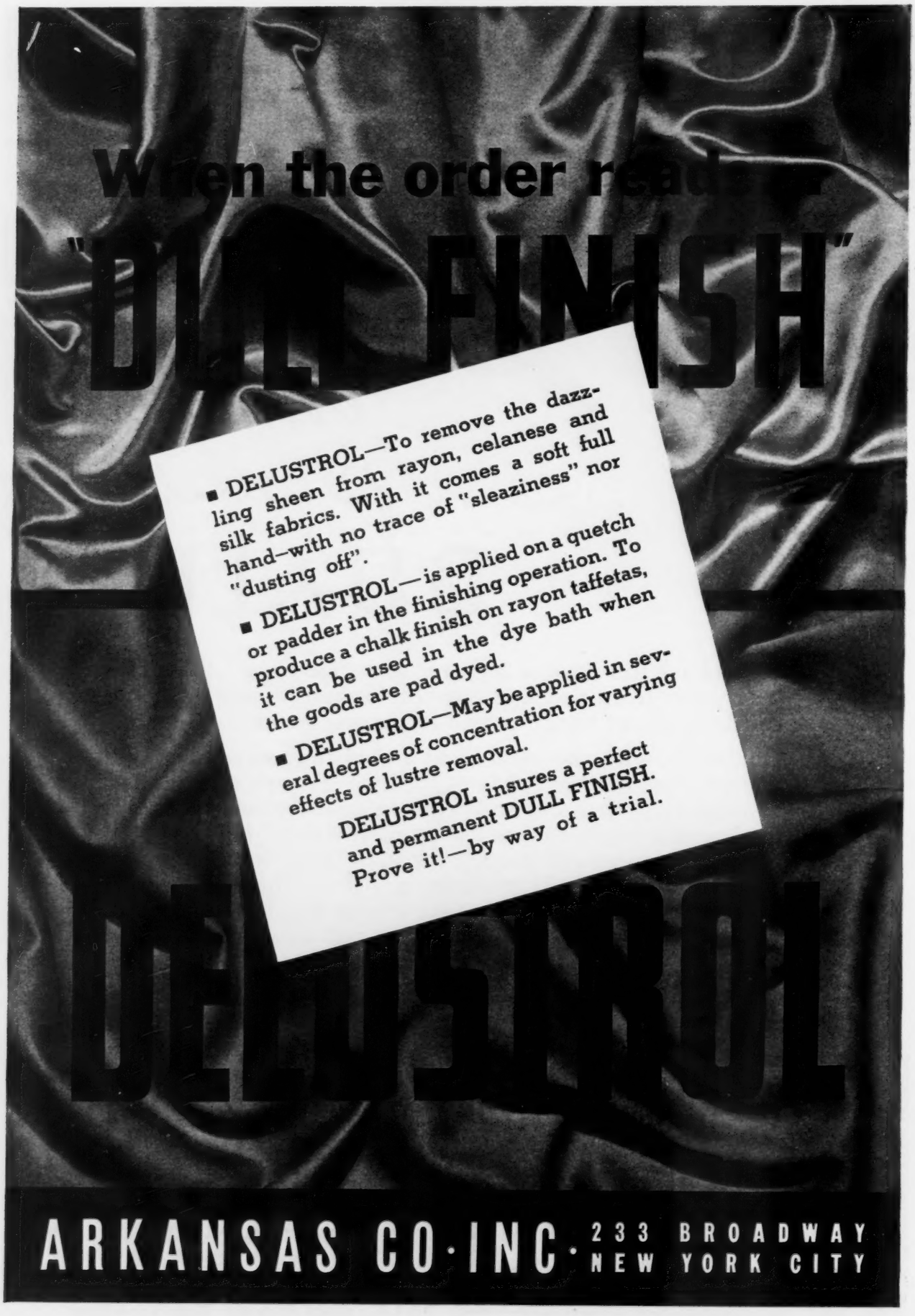
But today, with the New Deal and rising prices putting life in Industry, the big cry is—Quality. There's only one way to supply this demand and produce quality fabrics—use high quality materials. Wise textile men won't be led astray by the false economy of cheap materials. They know they can't cut corners and still produce quality. They will use the best. And to be perfectly sure of the finished fabric, they will use Diastafor—the ideal sizing and de-sizing agent.

As we face better times in the Textile Industry, we take this opportunity to renew our pledge of continuing to supply mills with the same high quality Diastafor. We shall never cut corners on this quality. We shall always use the finest raw materials obtainable.

Fleischmann's DIASTAFOR

Use Diastafor and your fabrics will satisfy the demand for quality. For full particulars ask our technical expert, or write to—

DIASTAFOR DEPARTMENT
STANDARD BRANDS
INCORPORATED
595 Madison Avenue New York City


When the order reads
"DULL FINISH"
■ DELUSTROL—To remove the dazzling sheen from rayon, celanese and silk fabrics. With it comes a soft full hand—with no trace of "sleaziness" nor "dusting off".
■ DELUSTROL—is applied on a quetch or padder in the finishing operation. To produce a chalk finish on rayon taffetas, it can be used in the dye bath when the goods are pad dyed.
■ DELUSTROL—May be applied in several degrees of concentration for varying effects of lustre removal.
DELUSTROL insures a perfect and permanent DULL FINISH.
Prove it!—by way of a trial.
DELUSTROL
ARKANSAS CO·INC·
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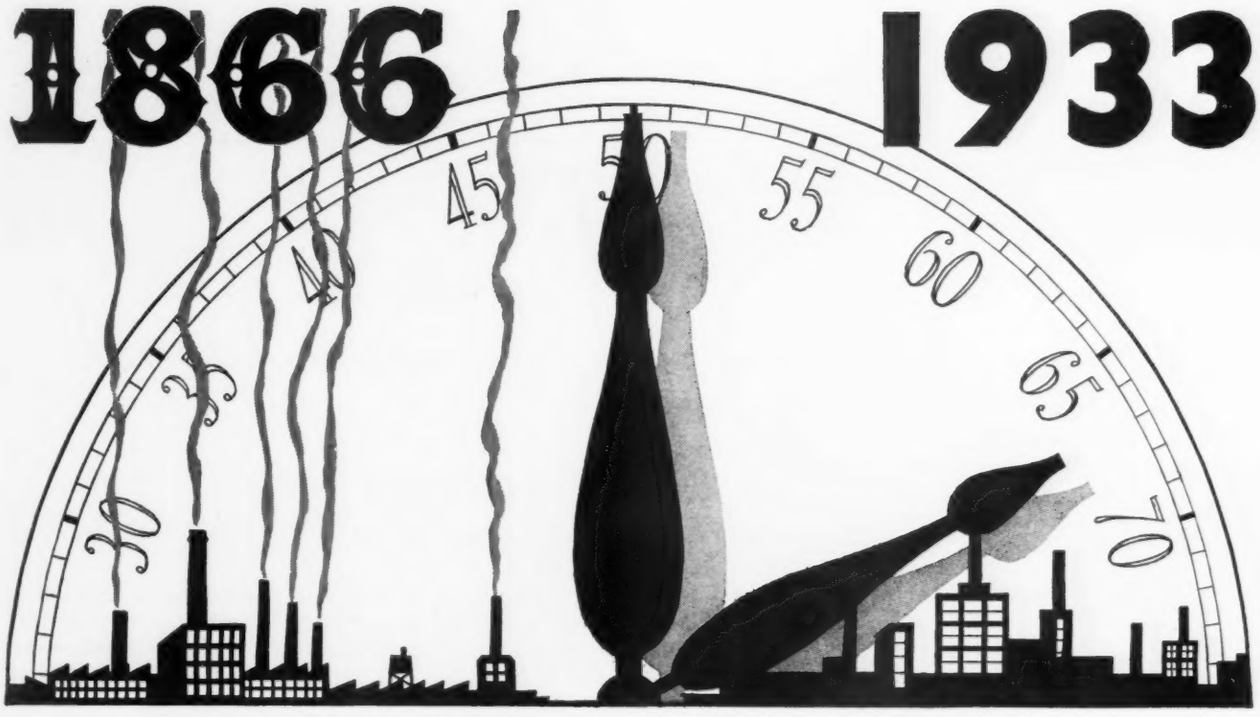

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Vol. 97

COTTON

No. 10

October 1933

W. R. C. SMITH, Publisher
T. W. McALLISTER, Editorial Director

ROBERT W. PHILIP, Editor

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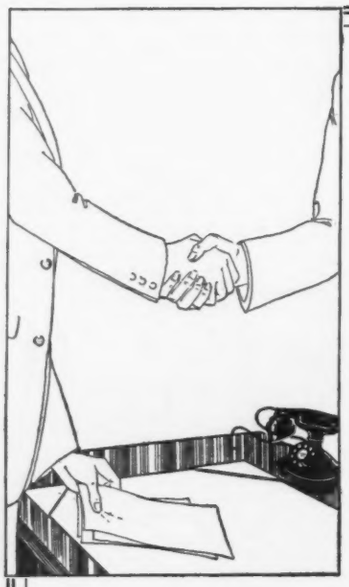

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Vol. 97
No. 10

COTTON

October,
1933

Good Management Must be Encouraged

AN effort to stimulate thought and interpretation of a vital problem, under the Code—through a further discussion of underlying principles and facts . . . . . .

A CERTAIN amount of apprehension has been felt by many textile operating executives over the possible implication of Section XV of the Cotton Textile Code, which is understood as prohibiting the increasing of the amount of work done by any employee without getting specific NRA approval for such increase. Although the Code states that the amount of work must not be increased and does not say that the number of machines per employee may not be increased, a great many executives have interpreted this to mean that it will be difficult if not impossible, to rearrange working conditions in the interest of increased operating efficiency now that the Code is in effect. Into Section XV of the Code is interpolated the term "stretch-out", and since this so called "stretch-out" system has been the object of violent attack on the part of labor organizations—and legislation concerning it has been bitterly contested in various states—it is of the utmost importance that some clear and definite understanding be reached by the textile industry as to when work is stretched out and when it is not.

Mechanical progress in textile machinery has gradually increased the efficiency of many machines until it would be absurd to require the same number of employees to operate the new equipment as were used on the old. Similarly, improvements in one department of a plant may be reflected in greatly improved operating conditions in other portions of the plant, so that the same machinery may be tended by fewer employees without requiring them to do any more work. It is most unfortunate that the term "stretch-out" should ever have been applied to the re-allocation of work due to improved operating conditions. A job is certainly not stretched out if changed conditions enable an employee to handle twice as many machines with less physical effort than was previously required. A job is stretched out only when an employer arbitrarily insists upon an employee's doing more work than is reasonably consistent with the duties of the job. Also, a job which is well within the capabilities of a highly skilled operative, might be considered stretched to an impossible degree for a slower and less skillful employee.

Unfortunately, some employers have really stretched out work to an unreasonable extent; just as some employers cut wages unreasonably and sought to evade labor laws by working their employees far in excess of the legal number of hours per week. The operation of the Code should quite properly prevent unreasonable stretching out of work in an attempt to defeat its fundamental purposes. But to say that work is stretched out simply because an employee is required to handle more machinery than formerly is quite absurd. To illustrate this point, consider the case of a large and well known cotton mill which has so improved its equipment and manufacturing methods that a weaver can care for more than 125 looms, and can do so with less actual physical effort than was formerly required on less than a third of this number. No experienced weaver could possibly watch this weave room in operation and truthfully claim that the work was stretched out.

The number of looms which a weaver can properly tend is determined almost entirely by the number of loom-stops per hour. If a weaver can start up 30 looms an hour, (exclusive of smashes), it makes little difference whether there are 30 stops on 10 looms or on 100 looms. Any weaver would rather take care of 200 looms with 20 stops an hour than 20 looms with 40 stops an hour, provided that 30 stops are a good hour's work. In this case, we could say that the 20-loom job was stretched out where the 200-loom job was not. This is not as absurd an illustration as might appear, because there have been many cases where modernizing equipment and improving methods have tripled and quadrupled the quantity of machinery that a hand can tend.

A similar condition obtains in the spinning room. One mill may be running 1-inch Strict Middling cotton with excellent opening, blending and cleaning equipment; single-process picking; adequate carding, drawing, and roving equipment, with proper humidification. The spinning frames may be the latest long-draft machines and the humidifying equipment may be ample. In this mill, on a certain yarn, a spinner may be able to tend 3,000 spindles without the slightest reason for claiming that the work is stretched out. Another mill, spinning the same yarn number for the same trade, may be attempting to use 15/16-inch Middling cotton; an abnormally high speed on the drawing, and no humidity. The spinning frames may be 30 to 40 years old and in none too good condition. To make up for obsolete equipment, this mill may

run an unreasonable front roll speed. In this mill we are assuming that the spinners are handling 1,000 spindles and yet have twice as many ends down per hour as the spinners in the other mill. In this plant, the work is certainly stretched out, because taking the creeling into consideration, a spinner should probably handle no more than 800 spindles.

These simple illustrations will show how ridiculous it is to limit arbitrarily the number of machines which an operative can tend without a thorough study of the conditions obtaining throughout the plant.

Perfectly legitimate and logical re-allocation of machinery per employee has been going on for years, and must continue to go on if the textile industry is to progress and maintain itself on a stable operating basis. It is entirely contrary to the spirit of the whole recovery program to stifle progress in manufacturing processes. The Textile Code is aimed at destroying unreasonable and unethical trade practices which have threatened to undermine the entire industry. The Code is intended to encourage sound manufacturing and merchandising practices, and there is no more fundamental principle of business than that of lowering manufacturing cost through the legitimate application of improved machinery and methods. The Code says, "You cannot lower manufacturing costs by paying low wages and working long hours." For the Code to forbid mechanical progress would be to write a death sentence for hundreds of plants which are not now in first class physical condition and have been discouraged by the chaotic state of the industry from improving their condition. The Code should lay a foundation for plants of this character to rehabilitate themselves. There are plenty of organizations, with ample means at their disposal, which have hesitated to take cash out of the bank and put it into machinery when a competitor could nullify their advantage by cutting his wages in half. Now that a sound and uniform basis of operation is provided, it would be absurd and unreasonable to prohabit such an organization from spending its money for better equipment, even though the improved equipment did give fewer jobs than the old.

The Cotton Textile Code is entitled "A Code of Fair Competition", and there is certainly nothing unfair about lightening the labor of human beings and transferring the work to machines. The term "stretch-out" can truthfully be applied only where the allocation of work is unquestionably unreasonable in view of the operating conditions. This is not a matter which can be settled by arbitrary regulation, but must be determined in each individual case by a person or committee having practical knowledge of proper working conditions in the particular manufacturing process involved.

It has been the object of some labor organizations to hinder the progress of any mechanical improvements which will throw members of the organizations out of employment. Many legislators, concerned more with the practical problem of re-election than with the more complicated economic problems involved have tried to pass legislation which in effect would say that a man might haul no more coal in a motor truck than his competitor could haul in a wheelbarrow. Laws like this are ridiculous, but legislators have been known to pass them and it behooves the textile industry to have clarified this whole situation so that there can be no misunderstanding as to when jobs are reasonable and when they are not. Since the Textile Code was adopted, there has been an amendment issued which sets up machinery for handling alleged cases of stretched out work. The committee created by this amendment are certain to have many important decisions to make and it is of vital importance that these decisions are made in a reasonable and orderly manner, based on some definite standards and not on any hit or miss attempt to settle a local dispute in an amicable manner without due regard to the principles involved.

The Cotton Textile Code gives the industry something sound and tangible to build upon, and it must be encouraged to build. To deprive the industry of the natural fruits of courage, initiative and resourcefulness, will be to leave it stagnant and no better off than before.

Textile Industrial Relations Boards Formed and in Operation

UNDER the provision added to the Cotton-Textile Code, arranging for the establishment of a National Industrial Relations Board for the industry, with state boards operating under it, to conduct hearings on labor disagreements, the personnel of these boards is gradually being completed.

Horace H. Willis, director of the textile department at Clemson College, S. C., has been made chairman of the South Carolina state board, and represents the public. J. E. Sirrine, mill engineer of Greenville, is the second member of the South Carolina board, representing the industry, and Earl R. Britton, of Greenville, completes the board as the representative of labor.

In Georgia, Thomas H. Quigley, director of industrial education, Georgia School of Technology, is representative of the public and therefore chairman of the state industrial relations board. Harry L. Williams, president, Swift Mfg. Co., Columbus, Ga., is the representative of industry; and O. E. Petry, of Atlanta, secretary of the Georgia Federation of Labor, is representative for labor on the board.

In Alabama, George H. Lanier, of the West Point Mfg. Co., represents the employers; C. D. Finch, of Birmingham, the employees, and P. O. Davis, of Alabama Polytechnic Institute, Auburn, is the public's representative and chairman.

In North Carolina, E. C. Dwelle, Chadwick-Hoskins Co., Charlotte, represents the employers; Forrest T. Cornelius, of Salisbury, the employees; the representative of the public is to be named.

Other state boards will be appointed soon.

Section XVII, which was added to the cotton-textile industry code, provides for the establishment of a National Industrial Relations Board of three

members, one to be nominated by the industry committee to represent the employers, one by the Labor Advisory Board of the Recovery Administration to represent the employees, and a third to be selected by the administrator. This national committee has been completed and is in operation. Its personnel is the same as that of the committee appointed to investigate the "stretch-out", whose report resulted in Section XVII being added to the code. The national board is:

Chairman, Robert W. Bruere, of Columbia University, representing the public; B. E. Geer, former cotton manufacturer and now president of Furman University, Greenville, S. C., representing the employers; and George L. Berry, Clarkesville, Tenn., president of the International Pressmen's Union.

L. R. Gilbert, formerly manager of southern mills, is secretary of the National Board in Washington.

As reported last month, Section XVII of the code provides that whenever "in any cotton textile mill a controversy shall arise between employer and employees as to the stretch-out (or specialization) system or any other problem of working conditions," the employer and employees may establish in the mill an industrial relations committee with equal representation from management and employees. If such a board is not appointed, either employer or employee may apply to a state industrial relations board for assistance in creating one.

If such a mill committee cannot adjust the controversy, it shall be submitted to the State Industrial Relations Board for co-operation and assistance in arriving at an agreement and united action. If the State Industrial Relations Board cannot do this, the matter is to be presented to the National board for hearing and final adjustment.

Further Interpretations of Cotton-Textile Code . .

Registration of productive machinery is now required by recovery administrator . . .

SUBSEQUENT to information reported last month, the Cotton Textile Industry Committee has made further interpretations in connection with the cotton-textile code. One was a reversal, on September 13th, of a previous interpretation with respect to watchmen. Previously, the longer schedule of watchmen was viewed in part as consisting of overtime above the standard work week. The altered interpretation made on September 13th ruled that a watchman should be paid for 40 hours the same wages he received for the longer week he worked prior to the effective date of the code. Under this ruling, for example, a watchman receiving $20.00 a week for 80 hours' work prior to the code would now receive $20.00 for 40 hours. The committee explained that this ruling is consistent with Section XIII of the code.

As to piece workers, the committee on September 13th considered the situation with respect to piece workers that arises when mills do not have pick counters and cloth is removed from the loom in such a way as to cause the pay of weavers in any given week to represent in part some of the earnings of a previous week. In such instances actual piece work earnings may in one week be below the minimum on account of non-removal of cuts and the next week be proportionately increased when the cloth is removed. The committee has ruled that the necessary advances to the worker in order to bring his wages up to the minimum in a given week may be deducted from his pay in a subsequent week when wages paid represent, in part, the earnings of a previous week.

The committee ruled also on September 13th that salesmen do not come under the cotton-textile code, and, with reference to firemen, explained that firemen must be paid the minimum wage, and that there is no limitation on the hours of work of firemen.

B. B. Gossett, chairman of the plant extension subcommittee of the Industry Committee, offered a resolution, which was unanimously adopted, by which the Industry Committee recommends to the administrator requirement of persons engaged or engaging in the cotton textile industry, registration with the Cotton-Textile Institute of an inventory of their productive machinery as defined in the code, in place on October 1, 1933, and then under contract but not installed; and, on and after November 1, 1933, a monthly report of additional productive machinery (new or second hand), installed by them, and specifying the extent to which such installation is for the replacement of a similar number of units of productive machinery or for the purpose of bringing the operation of existing productive machinery into balance. Also after October 1, 1933, requiring the filing of application, prior to the installation of additional productive machinery, not theretofore contracted for, except for replacement or balancing of operation of existing productive machinery, stating the circumstances of and reasons for such installation, and securing a certificate from the administrator that such installation will be consistent with the N. I. R. A., during the period of the emergency.

On October 1, General Hugh S. Johnson, administrator of the National Recovery Act, gave his approval to the above proposal for registration of productive textile machinery, making it effective on that date.

George A. Sloan, president of the Cotton Textile Industry Committee, reported to General Hugh S. Johnson that employment in the cotton-textile industry had increased from March to September 1st by 145,515 workers, to a total of 465,915 on the latter date, or 20,000 more than the average for 1926.

Monthly payrolls in the industry, according to Mr. Sloan, increased from March to September by $13,-200,000. The figures presented to General Johnson, it was stated, show a monthly payroll of $12,800,000 for March, $15,300,000 for May, and an estimated $26,000,000 on September 1st, representing an increase of over 100 per cent in the industry's total payroll for the six months' period due to re-employ-

ment and wage increases.

Mr. Sloan stated that while the economic and credit position of the industry has improved from the disastrous situation in the early spring, the mills generally speaking have not as yet reached a position where interest on investment is assured. He pointed out that the cotton-textile industry has taken the risk of assuming the increased cost occasioned by the National Industrial Recovery Act in advance of other industries, and must look to the general application of the act and a consequent increase in the nation's purchasing power for maintenance of the present rate of employment.

Floor Stock Tax Removed from Stock in Process . .

WHILE the efforts to secure repeal of the processing tax on cotton or its graduated application over a period of several months were unsuccessful, the cotton-textile industry gained an important point through the elimination of that part of the floor stock tax applicable to stocks in process. Both the Department of Agriculture and the Bureau of Internal Revenue agreed to the cancellation of this part of the tax before the first payments were due on August 31st, but there was some question as to the legality of such action, and it was not until September 20th that T. D. 4392 was issued which officially eliminated the tax of 4.4184 cents per pound applicable to stocks in process on August 1st.

In the meantime practically all mills had paid one-fourth of this tax at the time of filing floor stock tax returns, but fortunately the Commissioner of Internal Revenue ruled that such payments may be credited against future installment payments of the tax on finished goods or the processing tax, so that the mills will be saved the usual delay of "red tape" encountered in securing tax refunds from the Federal Government.

The cancellation of the tax on stocks in process will save the mills the immediate payment of some ten million dollars or more, and while the law provided that this part of the tax should be refunded if and when the processing tax is terminated, the mills would have received no interest on this amount during the life of the tax.

As yet the Agricultural Adjustment Administration has not levied compensatory taxes against competitive fibers, a hearing on which was held on July 31st. However, a second hearing was called for October 2nd, since it was the feeling of the A. A. A. that the evidence presented at the first hearing was inadequate.

All applications for an extension of 90 days for the time of paying the floor stock tax were denied, but when it can be proven that the payment of the tax is unduly burdensome on a mill, an extension may be granted, and a loan received from the Reconstruction Finance Corporation with which to pay the tax.

A very decided slump in cotton goods orders followed during the first few weeks after the processing tax was applied, but the mills have been gradually recovering from the first shock of this tax which came so soon after the increased labor costs brought about by the textile code. However, unless compensatory taxes are levied against competitive textile fibers, and unless a better balance is effected between industry and agriculture, it is doubtful that the processing tax will prove to be of any material benefit to the cotton farmers.

Method of Determining Tare

Among the many questions which arose in connection with the payment of the processing tax was one as to the methods used to determine the weight of bagging and ties in computing the net weight of raw cotton. Of interest are the results of a questionnaire prepared by the Cotton Manufacturers Association of Georgia, representing answers from 78 Georgia mills, with 2,068,690 spindles. Of this number, 21 mills, operating 677,424 spindles, reported that they actually weigh the bagging and ties from each bale and deduct the actual weights; while 53 mills, with a total of 1,244,838 spindles, use the Southern Mill Rules percentage of 4.4 per cent on uncompressed cotton and 4.8 per cent on compressed cotton, which is permissible under a ruling of the acting deputy internal revenue commissioner. The other four mills reported using a flat deduction of 22 pounds per bale, as allowed by the collector of internal revenue of South Carolina.

As to whether cotton must be re-weighed just before it is opened for processing or whether it is permissible to use invoice or receiving weights, a ruling has been made that all cotton must be re-weighed immediately before it is opened for processing, and these weights must be used in determining the amount of raw cotton subject to the processing tax.

Paint is Asset in Textile Mills

Painting jobs in many textile mills and villages have been postponed for several years, but "now is the time to consider such improvements," according to Edward T. Pickard, chief of the textile division of the Department of Commerce, Washington.

"A painting job," stated Mr. Pickard, "is property protection, an investment, and gives needed employment. But of greater importance is the improvement of working and living conditions which make for self respect and a larger sense of responsibility on the part of both workers and manager."

In connection with Mr. Pickard's statement, many examples are given to illustrate the uses of color by manufacturers awakened to its possibilities. The full-fashioned hosiery industry reports that their work is so exacting that ten years of useful eyesight is the operators' maximum. Among others, the Ajax Hosiery Mills and Schuylkill Mills, in the Philadelphia district, are studying remedies for the problem. It was found that machines and inspection tables colored to minimize glare and to offer the greatest amount of contrast at the working point eliminate a great number of rejections; that colored machines have proved a tremendous impetus to plant morale. Both mills are experimenting with light blue and green tops for inspection tables.

Modern Equipment and Processes

A compilation of brief descriptions of recent developments in textile equipment, processes, supplies, services, etc.

THE theme of the special sections in this issue is that of Modern Equipment and Processes. Two years ago this month a similar section was featured and attracted widespread interest.

As then, the textile industry now is seeking out the new ideas, new economies, new processes. This condition exists, of course, in every industry and business of the country, but textiles especially has intensified its search for better and more efficient machinery.

The stipulations of the code under which the cotton-textile division is operating should in no way lessen interest in equipment, processes, supplies, services, etc., of a modern character.

Because of the ramified and diversified set-up in this industry, with its several major branches, and a multitude of differences within each branch, it is difficult for an individual, as a member of any one of these several units, to secure a complete picture of the progress made by the industry as a whole. Each individual's compass is restricted largely by the direct applications of his own particular problems.

Thus, the purpose of this Modern Equipment and Process Number is to reflect broadly what has been done in the various branches of the textile industry in the development of new machinery, new applications, new processes and new services during the past two years.

While much progress has been made within the mills themselves, largely with existing facilities, the newer developments and tendencies are perhaps best found by a survey of what has been done among the concerns serving the industry. It is patent that during the last few years, with demand for their products and services below normal, these concerns should have turned to the development of new ideas, and the refinement of existing ones.

It is of course self-evident that, due to the physical limitations of time and space, an absolutely complete presentation of every new development having a bearing upon textile manufacture could not reasonably be presented in a section of this kind. In securing the special material for this issue, requests were made of as complete a list as could be compiled of those concerns serving the industry, for descriptive material referring to new developments.

Insofar as was practical, and dependent upon the co-operation of the concerns of whom these requests were made, brief items referring to these new developments were prepared, and, where useful and practical, illustrations were used.

There are two divisions of the special section in this issue. On the third-odd pages immediately following are the items referring to general mill applications, while those pertaining specifically to the knitting mill and its complementary processes have been separated and are presented in another division which begins on page 119.

The comprehensive compilations of descriptions to be found in these two divisions were based upon the information supplied by the concerns serving the textile industry. While the use of this section necessitated the omission of most of the usual articles of a general character, as well as the discussion departments, it is felt that this feature will be of unusual interest and value to the reader by providing, conveniently and compactly, a kaleidoscopic review of most of the new developments in his own branch of the industry and in the others as well.

For purposes of convenience and classification, the items thus presented have been grouped under several main headings, and will thus be found.

The first division deals with some of the major General Developments.

The next is Mill Processes and Machinery, which covers opening, picking, cotton handling, drawing frames, spinning, warp preparation, weaving machinery and accessories, etc., etc.

The third section is devoted to Winding, Twisting, Redraw Machines, and similar equipment.

Accessories and Supplies, such as counters, rolls, measuring devices, stop motions, belts, regulators, etc., etc., are covered next.

Dyeing, Bleaching and Finishing Machinery developments are described in the next section. Then come the Chemical and Sizing Materials of various kinds.

Developments in Power Generation, Transmission, Electrical Equipment, Etc., cover a broad field, and these items will be of especial interest to all phases of the textile industry in view of its tremendous use of this type of equipment in its processes and plants.

General Factory and Shop Equipment is another important subject for the textile plant, and this is the heading of the next section. As stated, the material on Knitting, Braiding, Etc., Etc., appears separately in the Knitting Section.

Depending upon one's interests and position, the amount of this material which is already familiar to different readers will vary. As a compilation it should be of especial immediate interest, however; and should prove useful if filed for future reference.

* * *

Editor's note: It was necessary, in view of the special Modern Equipment and Process feature, to omit from this issue the "How Other Men Manage" and "Knitting Kinks" discussion departments. These will be resumed as usual in the November number.

Also, the next installments in the series on "Practical Rayon Handling", by Phil A. Ment, and on "Starches, Gums and Dextrines", by J. Andrew Clark, which could not appear this month, will be used in the November number.

General Developments

Dixie "Controlled Manufacture"

A testing laboratory in the spinning mill, and two testing rooms in the mercerizing and finishing plants, and an intensive system of employee schooling —plus a liberal sprinkling of operatives who check and inspect at every stage in the process of manufacture from raw cotton to finished durene represented the initial stage in "controlled manufacture" of yarn. In 1931 the problem was approached from another angle. The existing system of checks, tests and inspections was preserved and a new general control laboratory established. This laboratory was housed in a building all its own. Raw cotton is analyzed for convolutions of fibers; the percentage of immature fibers in cotton shipments is determined; and results obtained in spinning, mercerizing and finishing are checked.

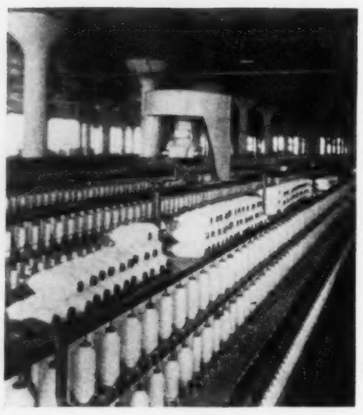
The next step was to install a modern knitting machine and a new ribber and employ an experienced knitter to work all counts possible on these machines and to tabulate the results. Also equipment for testing knitted fabrics for elasticity and dye evenness, an Emerson conditioning oven, yarn reels, fine balance grain scales, a single thread break testing machine, a motor-driven breaking-strength testing machine with automatic graph for recording break and elasticity, seriplane and two microscopes were added to the equipment.

Dixie Mercerizing Company, Chattanooga, Tenn.

:: :: ::

Traveling Cleaner

A traveling cleaner for removing lint, fly, dust, etc., has a fan unit which travels lengthwise of the spinning frame or other machine on a two-rail track that is mounted on the creel board, extending the length of one to six or more frames as desired. The cleaner is propelled by its own motion; at each end of the traverse, motion is reversed automatically. Two currents of air—one on each side of the frame—are created, for cleaning all surfaces above the ring rail. The air currents blow the accumulated fly outward and downward to the floor. The draft of air on one side of the frame is slightly in advance of the draft on the other side; portions of these drafts sweep across the creel board in nearly opposite directions. The motion of the unit along the frame alters the directions of air streams, causing the air to clean from different angles, depending upon the direction of travel of the unit. There is no track or other support above the cleaner, which travels on a track attached to the frame.



Traveling cleaner

The manufacturers point out that the cleaner saves a large portion of labor required for cleaning, and prevents accumulation of gouts, slugs, etc. It is applicable also to winders, warpers, twisters, etc.

Parks-Cramer Co., Fitchburg, Mass.

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Recording Humidity Regulator

A recording humidity regulator, it is pointed out, gives a check up on the regulation of humidity, since the mill man from it can tell whether the relative humidity is at the proper control point; second the weekly chart which comes from the instrument is a reliable record of humidity conditions at any time. The instrument is manufactured in both the air operated and electric operated types.

International Moistening Co., 36 Exchange Place, Providence, R. I.

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Shear Attachment

Recent improvements have been made on machine shears for removing broken ends in cloth, together with lumps, knots, etc. The most generally used machine has two knives on each side of the cloth with supporting cloth rests. These knives which revolve are enclosed in specially designed suction hoods which are connected to a suction fan and a suction raises the hanging strings, loops, lint, etc., from the cloth, and draws them into the revolving knives which shear them off clean. If the cloth is woven with a slack selvage the machine must be equipped with a device for automatically taking up the slack in the cloth. An automatic cloth rest operating device is a new attachment which is actuated by the approach of the seam in the cloth, to remove the cloth from contact with the knives and to allow the seam to pass and then return to operating position after the seam has passed the knives. This attachment allows the cloth to be trimmed to within one foot of each side of the seams.

Hermas Machine Co., Hawthorne, N. J.

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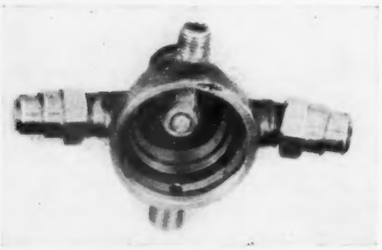
New Humidifier Head

A new humidifier head in which air and water under pressure are combined has been developed as an addition to previous models. The head consists of two chambers separated by a diaphragm. To the upper chamber air is admitted at low pressure, and to the lower chamber water is admitted at low pressure. The action of the air on the diaphragm automatically admits the water to be vaporized. When the air pressure goes off, the diaphragm automatically prevents water from entering the humidifier head. The head can be operated at high or low evaporative capacity, dependent on the water pressure used. The water supply is taken from the regular mill supply; as low pressure is used, water pumps are not necessary, it is pointed out.



Humidifier head

R. I. Humidifier and Ventilating Co., 99 Chauncy St., Boston, Mass.

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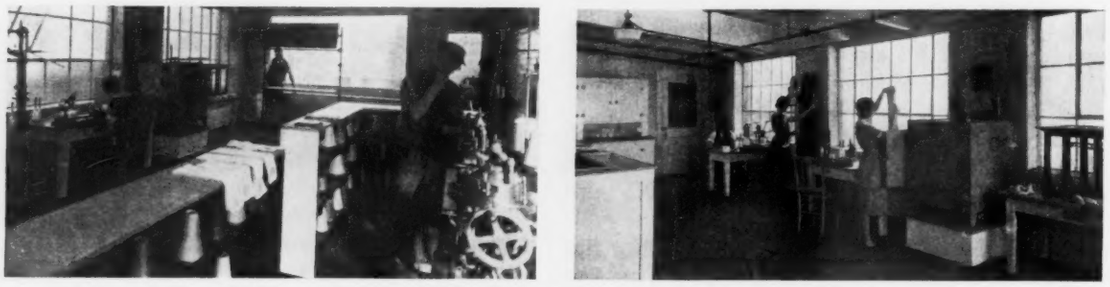
Laminating Machine

A constantly increasing demand for fabric in combination with other machines—such as cotton in combination with paper in cloth lined bags, cloth backed gummed tape, and cloth lined envelopes—resulted in the development of equipment designed for universal laminating or combining service, which may also be used for applying lacquer or varnish coating. The machine handles the material in roll form and combines two or three plies and re-winds into rolls. Micrometer adjustment of the upper coating roll is accurate to .0002-inch, it is stated. The same ad-



Two views of the "Controlled Manufacture" laboratories

justment provides a means of canting the roll. The coating rolls may be arranged for heating with steam, oil or hot water.

Cameron Machine Co., 61 Poplar St., Brooklyn, N. Y.

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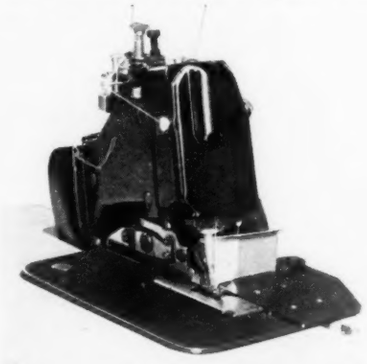
Sewing Machine Developments

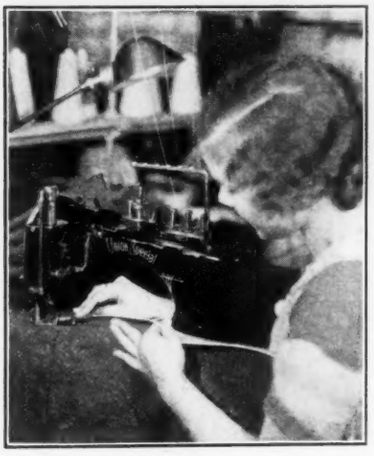
A new series of machines especially designed to do binding, hemming, and edge-seaming work with one or more needles, employing the Type 401 double locked stitch, is the new Edgelock series. Highest operating speed, with



Edgelock machine

record acceleration and de-celeration, and compactness are among the features described.

A new line of heavy-duty overseaming machines is available in special styles for overseaming stitch, the three-thread square-edge stitch and the two-thread Type 502 stitch. These machines are equipped with a front differential feed and an automatic trimming mechanism, and feature the

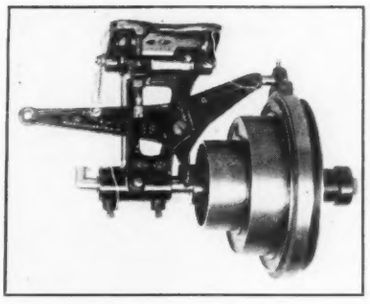


Air-cooling for needles

"gravity-capillary" oiling system; and improvements in the thread-handling mechanism.

A revolutionary invention is air-cooling for needles, accomplished by installing a small cylinder over the needle bar so that this bar serves as a piston to pump air through a nozzle which directs the cooling blast against the needles. It is particularly applicable to machines used for felling heavy material.

A new transmitter, to provide instant pickup and instant automatic stopping, with reduced slippage, etc.,



New transmitter

has been developed. All pulleys are bronzed bushed. The diameter of the transmitter shaft is reduced and an exacting method used in balancing the unit.

Union Special Machine Co., 400 North Franklin St., Chicago, Ill.

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Electric Typewriter

An electric carriage typewriter—a standard typewriter with an enclosed motor which returns the carriage and shifts it to the capital letter position—was introduced recently. This machine is said to increase typing pro-

Electric typewriter

duction and produce a better, more uniform grade of work; it is adaptable especially for order writing, invoice billing and correspondence in large offices.

Burroughs Adding Machine Co., Detroit, Mich.

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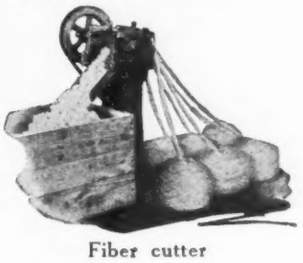
Rotary Fiber Cutter

The new rotary fiber cutter is designed for cutting wool, flax, silk, rayon and other materials which are in the form of top, sliver, skeins, etc., into lengths of natural cotton fiber for



Fiber cutter

handling on cotton spinning machinery either in mixed spinning or alone. This is a counter-balanced knife rotating at high speed, with automatic feed of material. It operates at the rate of 275 cuts per minute on each strand, the length of cut being adjustable from ½-inch up to 3 inches.

F. J. Stokes Machine Company, Philadelphia, Pa.

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Pay Envelope

Recent improvements in paper stock and format have been made in the Four-in-One pay envelope, which was designed to reduce the number of operations in handling large payrolls. An extra long flap fits over the face of the envelope and carries a detailed statement of wages, deductions, etc., which is reproduced on the face of the envelope through carbon paper or a carbonized back on the flap. The flap is then detached and given to the employee. The paymaster fills the envelope and seals it. The employee exchanges the flap for the pay envelope; the signed flap is retained by the paymaster as a receipt. The employee has in advance a record of the pay he is to receive, thereby reducing employee complaints and saving time in the actual pay-off.

Atlanta Envelope Co., 505 Stewart Ave., S.W., Atlanta, Ga.

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New Paint Material

A new paint material known as "Iradex" is produced in 20 shades and a bright metallic finish which can be used either inside or outside. It is stated that one coat is the equivalent of several coats of outside house paint; and it will cover from 500 to 1,000 square feet per gallon.

The Sterling Varnish Co., Haysville, Penna.

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Liquid Coating

A liquid coating known as "Rust-tox" is designed for use for combatting corrosion. This coating may be brushed or sprayed at any temperature above 35 degrees F., to seal any rusted surface without removing the rust, preventing further oxidation and preparing the surface for a paint job. It has passed the tests as a vehicle for aluminum powder, and an ability to carry pigment in suspension allows it to function as a final coat if desired, it is explained.

The Skybryte Co., 1919 East 19 St., Cleveland, Ohio.

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Aluminum Coating

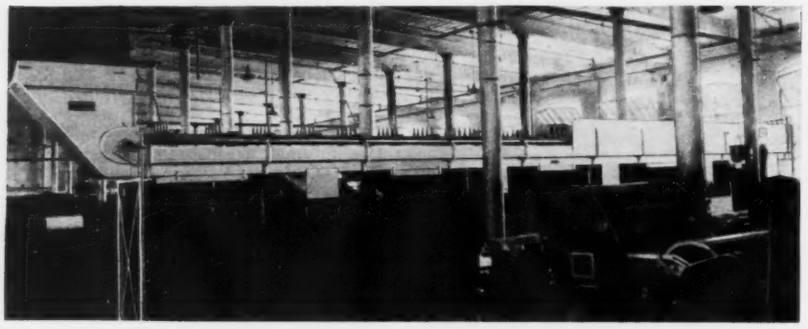
A ready-mixed aluminum coating, Permite Resalum, is a development in aluminum paints. It is available in two grades, non-corrosive and heat-resisting, for industrial painting requirements, on interior and exterior surfaces. It is stated that this new aluminum coating presents a smooth finish, and will safeguard surfaces against heat and cold, sunlight and rain, moisture, acids and gaseous fumes; the non-corrosive grade resisting all common acids up to 15 per cent concentration, and non-susceptible to discoloration by fumes. It is rustproof, and will withstand heat up to 700 degrees F., it is stated; the heat-resisting type withstanding temperatures up to 1,150 degrees F. The new product is offered as a preservative and protector for dyehouse surfaces, weave rooms, power plants, etc.; and, out-of-doors, for tanks, towers, metal window frames, fire escapes, fences, etc.

Aluminum Industries, Inc., Cincinnati, Ohio.

Mill Processes and Machinery

Rake Distributor and Control

The "Camco" automatic non-overflow rake distributor and "G.E." automatic electric cotton feed control was developed for providing cleaner and more even laps by one-process pickers, and to eliminate spillage of excess cotton to the floor at the end of the line. The distributor cleans and mixes cotton in places, ordinary cleaners, it is explained; removing light trash and motes which have passed through other machines. It may be mounted directly over the pickers to form a combined cleaning, blending and distributing unit. Cotton leaving the condenser enters the Gyrator and is circulated through this machine and



Camco rake distributor and GE control

conveying it to the hoppers; also maintains a constant cotton level in the hoppers, and, when all of the hoppers are filled, conveys any excess cotton back to the condenser end of the line instead of discharging it on the floor. The "G.E." control regulates the flow of cotton from the opening and cleaning machines to the pickers, and automatically takes care of cotton in transit through the cleaning machines and trunk line piping when the hoppers supplying the pickers are filled.

Centrif-Air Machine Co., Atlanta, Ga.

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Single Process Picking

To secure greater compactness, the Aldrich type synchronized single process picking equipment has recently been completely re-designed. None of the distinctive features of the equipment have been altered, but the method of building and adapting the synchronizer to the picker has been entirely changed; and a 3-beater picker is now only 32 feet long overall and a 2-beater picker approximately 28 feet. This, it is pointed out, makes possible installation of single process in smaller floor space than previously.

Aldrich Machine Works, Greenwood, S. C.

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Cotton Cleaning, Blending and Distributing

A new and different principle in cleaning cotton—by which the cotton is propelled mechanically over a continuous grid bar section without any air draft—is used in the Gyrator cleaner, a new development. The absence of suction, it is pointed out, permits a quantity of light trash to fall through the grid bars, there being no air current to hold this light trash in suspension or blow it back into the stock. The Gyrator has no revolving beaters which might curl or string the cotton.

The machine supplements, not replaces, ordinary cleaners, it is explained; removing light trash and motes which have passed through other machines. It may be mounted directly over the pickers to form a combined cleaning, blending and distributing unit. Cotton leaving the condenser enters the Gyrator and is circulated through this machine and across the picker hoppers with all overflow surplus returned directly to the intake of the Gyrator. Automatic controls regulate the flow of the cotton so there is always a constant supply in the system. The arrangement is offered as particularly adapted to the blending requirements of single process picking.

Lummus Cotton Gin Co., Columbus, Ga., and Aldrich Machine Works, Greenwood, S. C.

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Rake Distributor

A new rake distributor consists of an all metal rectangular trough with a series of rakes on an endless chain running the entire length of the trough over hoppers or bins. The cotton is fed by a condenser at one end and raked along the entire length of the trough, feeding cotton, through a chute in the bottom, into each hopper or bin. The depth of the cotton in the hopper or bin is governed by the length of the chute. The distributor allows for a further blending and mixing of the cotton run. At convenient locations dust boxes are provided for the removal of loose dust and dirt from the cotton. Any cotton which passes the last hopper is carried around the upper part of the distributor and back into the trough, eliminating an overflow.

H. & B. American Machine Co., Pawtucket, R. I.

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Buckley Cylinder Opener

A 30-inch Buckley opener is equipped with a 30-inch diameter Buckley type cylinder, and adjustable grid bars covering about ¼ the periphery of the cylinder, as well as a series of grids extending up to the cage. A gentle beating of the cotton from the feed rolls is secured; the cotton is tossed against the grid bars and over the grids to the cage. A multivane type of fan with steel blades and mounted on heavy duty ball bearings is furnished. The machine is built in single, double or triple units.

H. & B. American Machine Co., Pawtucket, R. I.

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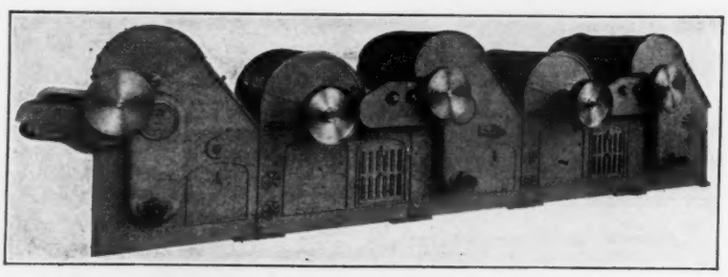
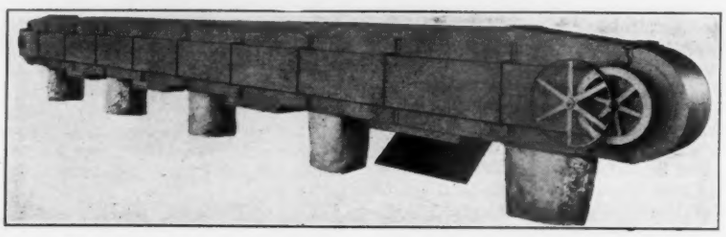
Hopper Feeder

In a new design of the hopper feeder, a density control box and delivery control box are provided in addition to a hopper and spiked elevating lattice. The density control box consists of an auxiliary hopper and ribbed feed controller. The density control box and ribbed feed controller allow for a regularity of feed to the main hopper to give a constant percentage of cotton in this hopper worked upon by the spiked elevating lattice and of opened stock from preceding machines. The entire mass is homogenous as it is carried forward by the elevating lattice into the delivery control box, which, having an adjustable controller plate, regulates the amount of stock delivered; and a ribbed relieving roll returns cotton to the hopper should an excess accumulate in this control box. Thus, it is pointed out, an even delivery of cotton according to the mass per unit of volume is secured.

H. & B. American Machine Co., Pawtucket, R. I.

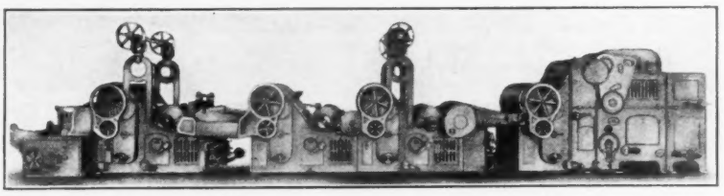




Above, buckley cylinder opener; below, H&B rake distributor

One-Process Picker

An outstanding feature of a new one-process picker is a patented evening system. The first evener, working in the feed section, controls the speed of the feed roll. The large tufts of cotton coming through spread the feed



One-process picker with patented evener

rolls, which causes the evener motion to slow down these rolls, allowing more time for the beater action. When smaller tufts feed through the opposite action occurs. The second evener, working in the delivery section, operates on a patented variable speed calender and controls the distribution of the cotton upon the cage. The feed rolls in this section run at a constant speed and any heavy or light places in the lap act on this evener, causing the cage and calender rolls to slow down or speed up as required.

H. & B. American Machine Co., Pawtucket, R. I.

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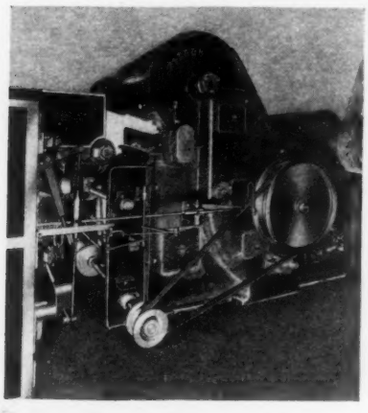
Picker Change-Over

A simple means of changing over pickers to one-process is applied as follows: The calender of the breaker is removed. A new auxiliary cone panel is bolted to the milled surfaces thus exposed and becomes an integral part



Saco-Lowell picker change-over

of the breaker. A new fan drive is provided which drives the auxiliary cones independently of the old evener motion, but the two mechanisms are connected and operated together, so the feed of the breaker changes at the same time and to the same extent that the feed on the finisher is varied. None of the old calender gearing is used; a new drive to the side shaft, including a tight-and-loose pulley combination, is provided; the drive for the breaker operates with the finisher drive so the machine is in synchronism.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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New Drawing Frame

A new drawing frame is equipped with either electrical or mechanical stop motion. All shafting is completely covered. The gearing arrangement has been distinctly improved. The tube gear has been re-designed and the radial throw is such as to fill the can to its maximum. The can bottom or floor plate can be placed on the floor and not interfere with the placing or removing of cans. All cover plates are of polished steel. The calender roll cover plates are swung on hinges. Clearers are removable without the loosening of screws or nuts. The overhang of the machine has been reduced.

H. & B. American Machine Co., Pawtucket, R. I.

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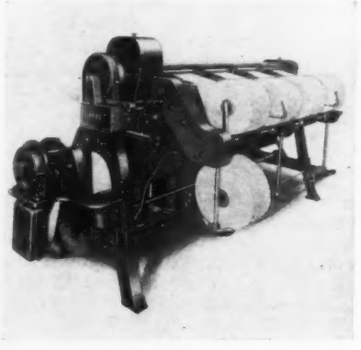
Controlled Draft Drawing

In a new principle drawing process, 16 individual slivers are first formed into a lap on a special new type lap winder; these laps are placed on a spe-



Controlled draft drawing

cially designed creel on the drawing frame, on which five lines of rolls are used, and the laps drawn out. Usual drafts range up to 16. The rolls may be of leather or cork, metallic or a combination of the two. Slivers from 20 to 50 per cent more even, with saving in labor, floor space and power—and an improved quality of sliver evidenced by better running in subsequent operations—are cited.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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Rayon Warp Sizer

A rayon warp sizer recently announced is made in four models—3- and 5-cylinder machines for warps made on the silk system, and the same types of machines for warps made on the cotton beam system. The three and five cylinder models are exactly the same except that the five cylinder machine has about 100 per cent more drying surface in contact with the yarn. The machine may be used not only for acetates and other synthetic yarns, but also for cotton. The types of fabrics vary from ribbons to the heaviest upholsteries and tapestries. Tension on the loom beam is regulated at the operator's will by a friction belt drive, so that any tension the operator desires may be obtained. A compensating device regulates the speed of the quetsch rolls to conform with that of the drying cylinders; control of heat is provided in each cylinder individually; special dial type thermometers are attached to each drying cylinder and heat is controlled by individual valves. Reeves variable speed drive with a ratio of 4 to 1 and intermediate speeds is used. The three-roll quetsch is used.

Charles B. Johnson, Paterson, N. J.

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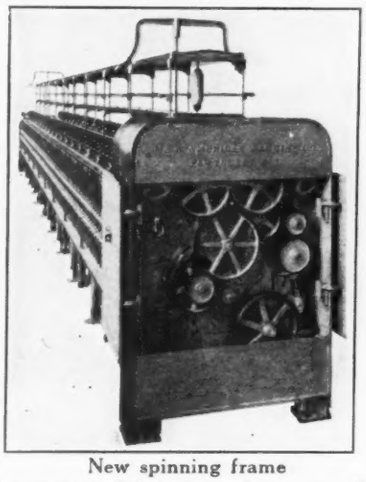
New Model Spinning Frame

Heavy duty type spindles with large oil capacity base; specially tempered spindle blades; high speed super-polished rings; roller bearing spindles (when specified)—are among the features of new models in spinning frames. Creels are rigidly supported and are metal bound. For long



New spinning frame

traverse and heavy work, a new design traversing thread board is furnished. Fluted rolls are broached and fitted tightly. Cylinders are diametrically balanced; ball bearing cylinders and variable speed drive and patented reversible tape drive are available when specified. Either the standard cross shaft builder motion or the upright shaft enclosed in the head end may be secured. Four-roller long draft, for controlling a greater number of the longer fibers and giving sufficient freedom to the entire mass, may be secured.

H. & B. American Machine Co., Pawtucket, R. I.

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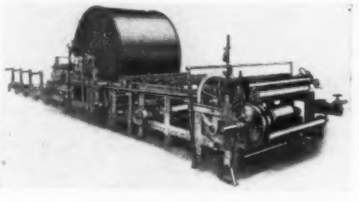
Single Cylinder Rayon Slasher

The design of a one-cylinder rayon slasher was made on the basis that the large diameter cylinder presents such an area that the temperature may be kept low and controlled, to produce a large production. Sufficient space for the yarn to cool as it leaves the cylin-



Rayon slasher

der is provided, it is explained, so that the fibers are in proper condition on the loom beam. The large drum is positively geared with an auxiliary drive through self-releasing gears which compensates for the difference in the surface speeds of the cylinder against

the yarn, automatically adapting itself to the natural shrinkage when drying. The immersion of the rayon in the size is controlled to suit the warp run. Beams are wound through a disc tension regulated to control the stretch.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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Improved Automatic Spooler

Extensive improvements and changes have been made in the automatic spooler, the present model handling 50 per cent more yarn than spoolers of this type formerly built. The increased capacity was accomplished by adding approximately 50 per cent more spindles per machine and re-designing the tying mechanism to permit higher speed. One knotter now ties in the bobbins that three operators, instead of two as formerly, can put in place. Parts subject to greatest wear have been re-designed so that it is only necessary to replace wearing surfaces. Changes in the weaver's knotter on the machine permit the tying of knots with extremely short ends, and also increase the life of the mechanism. The spoolers are now built so that four yarn numbers can be run at one time.

Barber-Colman Co., Rockford, Ill.

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Horizontal Silk System Warper

A high speed warper for warping rayon under the silk system attains a speed of 20 yards a minute. It is pointed out that the number of ends with this system is unlimited, that an end and end cross lease is possible, that the warp is kept straight, and that an even tension is secured from the first section to the last. In the creel, the yarn balloons off of the end of the cone and passes through a porcelain bracket, thence to the primary tension and around the whorl of the secondary tension, then to the end of the creel to a porcelain eye, through the condenser, lease reed and false reed and warp reed. The tension is revolving.

Sipp-Eastwood Corporation, Paterson, N. J.

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Super-Speed Warper

The Super-speed warper introduced some months ago involves several new principles as well as a higher winding speed (900 yards per minute). The creel, which uses cheeses wound on the automatic spooler as a yarn supply, is arranged so that the yarn is replenished while the warper is in operation. No tension devices are used, the friction of the yarn as it passes through the air furnishing the necessary tautness for winding a firm uniform beam. The machine is arranged so each beam can be run with a different yarn count or number of ends with no more lost time than when operated continuously on one yarn number. It is designed so that yarn kinks are avoided in starting and stopping.

Barber-Colman Co., Rockford, Ill.

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Electric Slasher

The application of electricity in the place of steam to the cylinders and size box on a slasher has been developed. Satisfactory results and economical consumption of electricity are reported. The electrically heated size box is double jacketed. The electric slasher is, it is explained, in reality a conveyor type oven providing automatic humidity control and automatic temperature control. It is reported that production may be increased considerably on the electric type of slasher. The perfection of the machine was made in conjunction with the Walker Electric Co., of Atlanta.

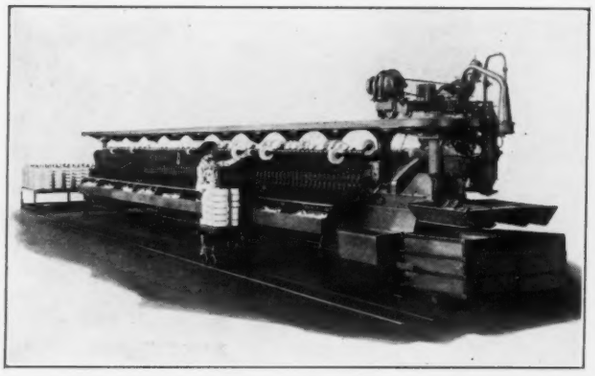
Georgia Power Company, Atlanta, Ga.

Draper Developments

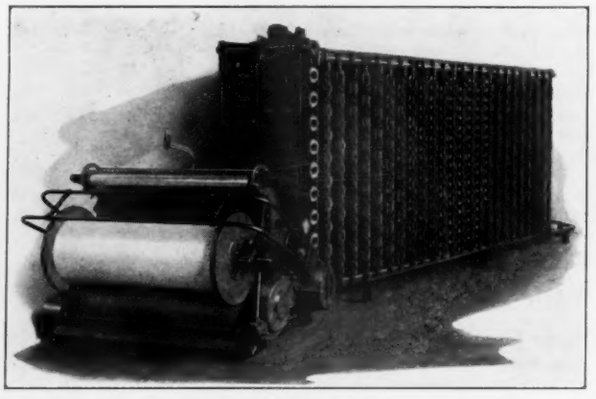
Supplementing the X Model high speed loom, developed about two years ago for cotton weaves and for many all rayon and mixed rayon and cotton fabrics, three new looms have been introduced during the past two years.

One of these is the C Model for quality rayon fabrics and fine cottons. It is a shuttle-changing loom that changes the shuttle without stopping or losing a pick. The first pick after a shuttle change is laid with the same even tension as other picks. The loom is built without daggers or frogs and with a patent loose reed to prevent smashes. The take-up operates in a way to prevent inequalities in the fabric and the double impulse let-off sustains the accuracy of the take-up. A device to prevent starting marks and a release lever to allow taking the tension off of the warp for the overnight or week-end stop are other features. The loom has a new temple, is built with either side or center fork and has the internal expanding brake and many other features of the X Model.

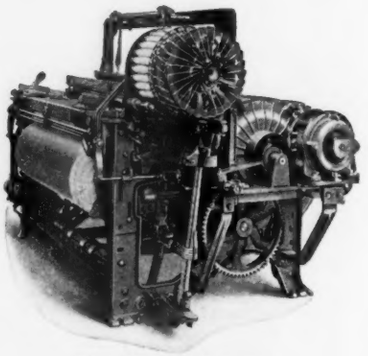
The R Model loom was perfected to weave ducks of all weights up to No.



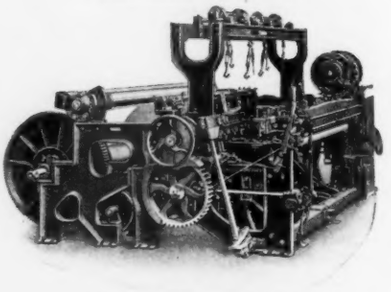
Improved automatic spooler



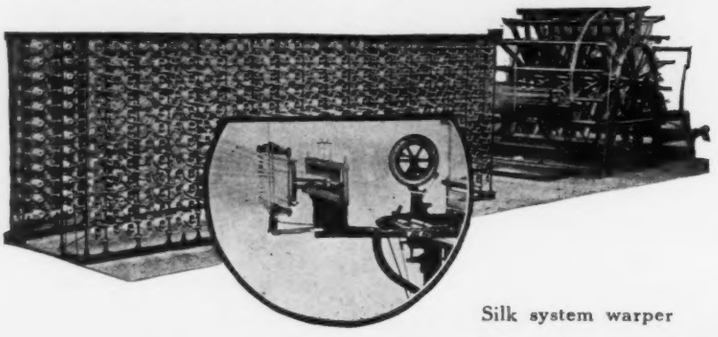
Super-speed warper



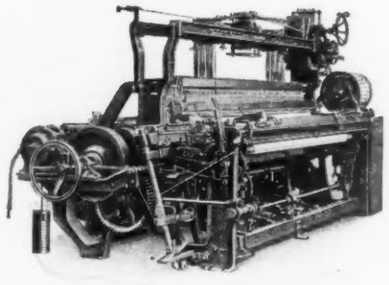
The Model X loom



R Model for ducks



Silk system warper

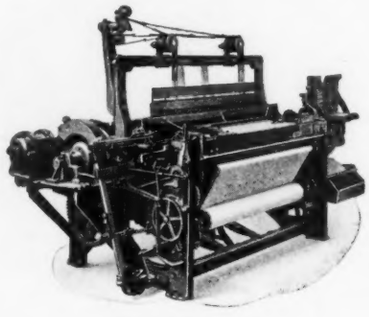


HC worsted loom

4 hard duck. It takes a yarn beam up to 32 inches in diameter.

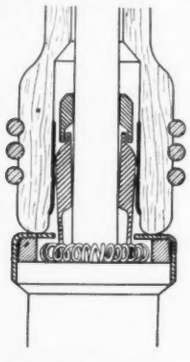
The HC Worsted loom has larger harness capacity than previous worsted models and is built for high speed if desired.

The new Draper spinning ring, it is pointed out, can be started with a traveler of the same weight as that used on old rings.



C Model for rayon

A new bobbin for use with the Draper spindle with Stimpson patent clutch was developed. This bobbin is



—with new patented bushing

fitted with a patent bushing for preventing rising, loose and wobbling bobbins in spinning.

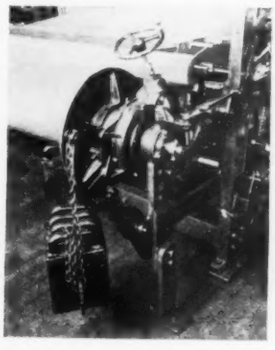
A new shuttle is the result of long experiment to overcome troubles from the spring end, particularly those weaving troubles that result from a loose spring. The wood has been strengthened, design of the spring changed and a patented method of locking it in place adopted to prevent sideways or up and down movement of the spring.

A new series of temples were designed for holding the cloth more firmly and for taking standard repairs without filing or fitting.

Draper Corporation, Hopedale, Mass.

C. & K. Developments

Within the last few years the designs of the cotton, silk and worsted looms have been revised completely in three families—the Cotton King, the Super Silk, and the high speed worsted family. Each loom group was planned to permit construction of a wide variety of models on one frame; for instance, in the case of the Super Silk looms, all looms formerly built on 13 different frames are now built on one frame, resulting in a standardization and interchangability of parts. The Cotton King loom is built in both cam and dobby models. The 20-harness dobby can be supplied in both ¾-inch gauge; and 15/32-inch gauge, and the 25 harness in ⅜-inch gauge equipped with leno, terry, handkerchief, measuring, and fringe motions. A jacquard harness motion is also available. The loom is built for 2 x 1 and 4 x 1 operation with the stationary automatic bobbin changing magazine. The looms can also be supplied with a large take-up drum and pressure roll, as used in the silk industry, as well as in the conventional cotton design.



Automatic let-off

The high speed worsted loom is built in various widths; can be made for shuttles suitable for weaving woolen as well as worsted. A 20-harness head motion of new design is incorporated in the machine, which is built for 2 x 1, 4 x 1 and 4 x 4 operation.

The Super Silk loom is available with cone, dobby or intermediate head harness motions; non-automatic, automatic bobbin changing or automatic shuttle changing. Several different shuttle sizes are available, with other features including a steel breast beam, a special spring reed device, and other improvements in the let-off and take-up.

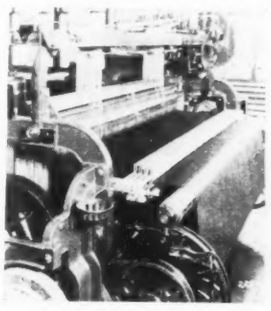
A new thread holder for the automatic bobbin changing magazine is designed to prevent the ends of filling from drooping to the point where they catch on the picker or picker stick.

A paperless warp beam is designed to eliminate the use of paper, since the flanges are adjustable to any warp width within the dimension range of the particular beam used.

An automatic let-off does not employ friction to give tension to the warp. The beam "floats" under the pull of the warp in one direction and the weights which give the tension in the other direction. The mechanical part of the motion serves to let off sufficient warp to prevent the beam from rotating forward as the take-up operates.

A shuttle-changing mechanism has been designed to provide for the automatic weaving of silk and rayon, with the tension on the first pick after the transfer of the shuttle under complete control; simplifying the problem of ends of filling being drawn into the cloth.

A new electric warp stop motion for looms is so constructed that the number of banks of drop wires may be varied as desired. The knockoff is through a very compact arrangement, consisting of a solenoid and suitable cams which can be placed readily on a loom not equipped with a warp stop motion.



Electric warp stop motion

Crompton and Knowles Loom Works, Worcester, Mass.

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Demi Sheeter

A new sheeting machine, the Demi-sheeter, has been developed for users of cellophane and other transparent cellulose materials for cutting stock from rolls into sheets. The machine takes rolls up to 22-inch width, and will sheet from ⅛-inch to 24-inch in length, in steps of ⅛-inch, without changing gears. The machine comes arranged for sheeting plain material and is available with a cut register attachment which enables the operator to keep the cut in step with the printed register. It is equipped with a motor and can be run from a light socket. As the sheets are cut they are carried by metal fingers to a jogger table where reciprocating wings assist the sheets into a pile.

Charles Beck Machine Co., 414 North 13th St., Philadelphia, Pa.

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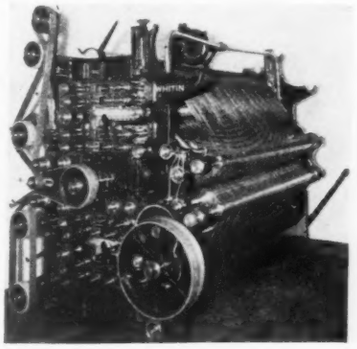
Tape Condenser

On a new model tape condenser for the finisher card in the woolen system, eccentrics have been applied to withstand a speed sufficiently high to enable the condenser to produce more good roping than the card can deliver, it is pointed out, so it is not necessary to limit the card production to the condenser capacity. All rolls over which



Tape condenser

the tapes pass are equipped with anti-friction bearings; a positive take-up mechanism is arranged to take out stretch in the tapes, and is calibrated on either side of the frame. The main condenser drive is placed closer to the condenser side. Dividing roller bearings are equipped with a locking device, and are self-aligning.

The speed of each apron may be changed individually without affecting the speed of the remaining three banks. All four banks may be changed simultaneously. Self-aligning bearings are provided throughout the construction, with central oiling stations for lubrication.

Whitin Machine Works, Whitinsville, Mass.

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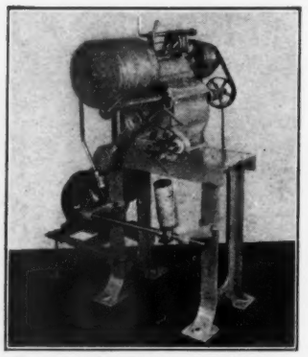
Wool Spinning Frame

A new model spinning frame, Model E, is of entirely new design. The new head end is of box construction, and all working mechanisms are built into this end; it is equipped with hinged panels, and a special safety panel lock. The motor drive is enclosed in the head end. A new spindle driving arrangement is designed to permit a perfect balance of the rails; the counter balancing of the rails is provided for through a square shaft extending the length of the frame. Aeroplane flexible cables suspend the cradle bars to the sheaves on the square shaft.

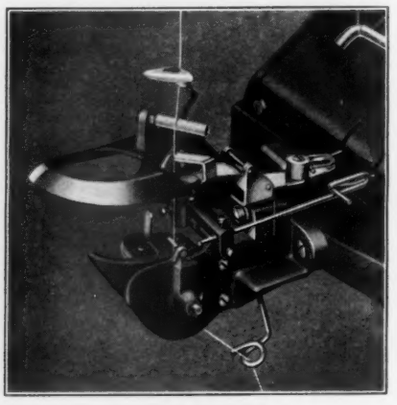
A new traversing mechanism on this frame is arranged so the travel of the front roll varies constantly within a cycle which is completed only once in every 7,400 traverses. The same mechanism controls the roving traverse on the upper set of rolls. A new combination deflector rod holder and shipper rod bracket; an automatic deck board wiper; an all-metallic threadboard; an improved twister head; builder with automatic wind-back; anti-friction bearings throughout the frame; and an improved spindle are among the other features.

Whitin Machine Works, Whitinsville, Mass.



For winding large packages

A unique adaptation applied to the No. 60 machine is of interest for woolen and worsted yarns. This device is termed a "slub trap", a new method of



Slub trap

inspecting worsted yarn. A slub trap is attached to each spindle of the No. 60 cone winder; when an imperfection reaches the trap it is stopped with the slub or knot directly in front of the operator—this taking the place of eye inspection where 40 to 48 ends are drawn from the beam with the entire group stopped while the operator removes one imperfection.

Universal Winding Co., Boston, Mass.

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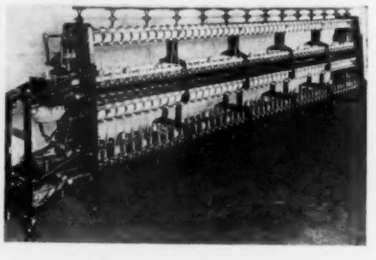
New Twister

A new twister for silk and rayon uses ball-bearing in the general construction, including ball-bearings in the roller shaft, traverse mechanism and twist gear bearings. The machine is constructed for high speed at low



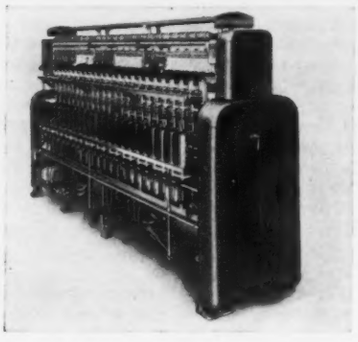
Silk and rayon twister

power consumption and to produce yarn free from oil and dirt contamination. The double-deck machine is driven with 2-hp. motors on each deck, mounted on slides controlled by rack-gear and weight for delivering

Winding, Twisting, Re-Draw Machines

Dual Type Twister

A new type twister has two banks of spindles and but one set of rolls. Each bank of spindles inserts one-half the required twist in the yarn, thereby causing twice the production of an ordinary spindle, it is pointed out. The machine is 25 inches wide, with special spindles and spindle brakes; one tape drives eight spindles. Extra large packages are produced to decrease doffing and creeling, and knots and piecings. The machine is especially designed for fine count cotton yarns and rayon twisting, wet and dry.



Dual type twister

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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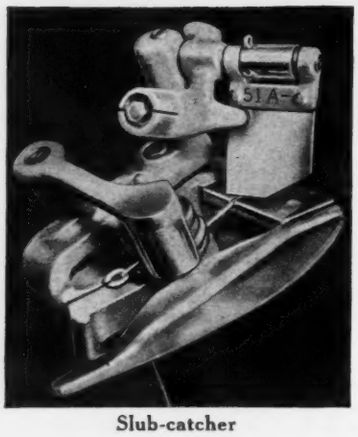
Slub-catcher and Tension

A combined tension and slub-catcher for use on Foster winder Models 101, 30 and 12, etc., is announced. The slub-catcher part of the attachment is the "gate" principle and allows close adjustment for the yarn size and degree of slubbing required. The tension part is the standard disc washer type. The yarn after going through the tension passes under the gate in a specially designed groove, the gate being set to clear the yarn. The imperfection lifts above the groove and engages the gate which closes instantly. Knits and foreign fibers not imbedded in the twist are removed without breaking the yarn.



Slub-catcher

Foster Machine Co., Westfield, Mass.

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Universal Machine Developments

A new machine adapted for the winding of heavy cord twine has been designed; it handles twine for market purposes in conical or cylindrical packages weighing from 20 to 22 pounds each. These packages weighing 20 pounds are ideal for 8/3 carpet yarn for carpet warps, it is pointed out.

The structure of the No. 40 roll guide machine has been adapted to the winding of cotton yarn in cone form for warping or for knitting purposes; speed control is decided by the number and quality of the yarn. Machine speed tests have been made at 1,000 yards per minute and practical mill tests run from 750 to 850 yards per minute.

A new machine, No. 30, has been constructed for handling silk or rayon yarn in conical form. A construction which houses all rotative or other movable parts that may distribute oil by contact or momentum is designed for protection of the yarn from contact with oil.

uniform tension. Spindle belt controls the take-up rolls and is replaced endless. The traverse mechanism has a self-lubricating cam and roller. All gears are in fixed position for twist change and are so designed as to change the ratio and not the center distance. All twist gears are mounted outside of the frame on a bracket which can swing opposite the twist as desired from 1 to 80 turns. One deck is offset more than the other for providing visibility. Yarn travels the same angle and distance on both decks.

U. S. Textile Machine Co., Scranton, Pa.

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Non Skid Spindle

The head of a new spindle which, it is stated, has greatly increased traction, is faced with a one-piece, replaceable rubber tread similar to an automobile tire; the contact of this rubber tread with the friction wheel giving a smooth-running positive drive and an extremely high traction or "non-skid" operation. The tread is readily placed on the spindle, requiring no cement, and being held in place by its own elasticity. It is especially applicable where high pulls are encountered in winding or re-drawing. Elimination of slippage and consequent loss of production on high denier rayons and heavy silk thread, particularly where cleaners are used, are claimed. The new spindle is not recommended for light thread.

Atwood Machine Co., Stonington, Conn.

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Oilwell Spindle

An oilwell spindle has been developed with an oil reservoir "which holds a supply of permanently clean oil sufficient for a year's constant operation." The oil is fed consistently to the bearing, without any pumping action. During spindle operation, the oil in the bolster in direct contact with the blade is gradually replaced with fresh, cool oil, below the temperature to set up any chemical reaction; preventing carbonization or what is termed black or dirty oil.

Fletcher Works, Glenwood Ave. and 2nd St., Philadelphia, Pa.

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Improvements on Abbott Winder

The Abbott type of winder, built on the "assembly line" principle so that the work moves past the operator at a definite rate of speed, has been arranged to handle the retracted or knitting type of cone. A spring tension has replaced the weights which formerly held the package down on the roll, for giving more uniform tension and better grip with less pressure. Various types of spindles have been developed, to accommodate cones of different taper at different angles; also a line of supports to hold paper tubes or cones of any degree or taper.

The direction of traversing the heads around the machine has been changed so the take-off from the cones is in a clock-wise direction, which is conventional, and which, it is explained increases efficiency in knot tying.

Package sizers, to indicate the size desired by ringing a bell or sounding a horn, have been worked out, and various methods of detecting run-out or partly run-out bobbins, so these can be removed from the machine or allowed to return to the operator as desired.

Abbott Machine Co., Wilton, N. H.

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New Model Twister

On a new model twister, traveler speeds as high as 7,000 feet per minute, as a result of specially constructed spindles and designed rings, are reported. Increased yardage is secured. A new design traversing thread board is supplied for long traverses. Either the cross shaft style builder motion or the upright shaft enclosed in head end is available. Ball bearing cylinders are available.

H. & B. American Machine Co., Pawtucket, R. I.

:: :: ::

New Re-Draw Frame

A new re-draw frame has a tension of a revolving type which applies the tension to the thread instead of the spool, permitting the over-end delivery of yarn. This delivery, it is pointed out, eliminates broken ends and knots in the yarn, has no inertia or momentum to be overcome, resulting in higher speeds, with less strain on the yarn and no slacking of ends on stop. The machine has a roller bearing motor drive, with new type piston traverse. The take-up spindles revolve in oil-less bearings; cork-head spindles are used for quicker spindle take-up.

Sipp-Eastwood Corp., Paterson, N. J.

Accessories and Supplies

Graphited Bronze

A line of bronze bushings and bearings has been applied to textile use. The bushing, it is pointed out, requires oiling but once or twice a year; lubrication is automatically supplied in small amounts at intervals under control of abnormal temperature. The bushing may be used for slow or high speed service; it removes hazards and wastes due to excess oil, there being no loss of lubricant by leakage, it is pointed out. More than 40 per cent of the entire bearing surface provides graphite contact with the shaft. The graphite lubricant is dovetailed into the bronze metal structure, and is not soluble in water, oil or gasoline. Oil or grease applied will penetrate the lubricating compound and aid the efficiency. Minutely spaced alternating metallic and graphited surfaces produce a structure similar to that found in the preferred bearing alloys, it is pointed out.

For intermittent action and on less important bearings, sheet bronze graphited bushings were developed. For high speeds and light loads, and slow speeds and heavy loads, cast bronze graphited bushings are offered.

The Johnson Bronze Co., New Castle, Pa.

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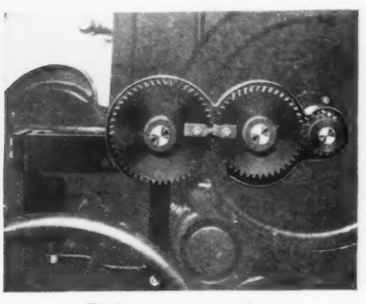
Positive Stop Motion for Pickers

A positive stop motion for pickers has been developed which measures the lap so accurately, it is pointed out, that there is not an error of more than ¼-inch in a 50-yard lap. This stop motion is designed to fit on the picker where the old stop motion was mounted, and installation is simple, it requiring a few minutes to remove the old stop motion and apply the new one. The principle is an application of the familiar Geneva hunting-tooth motion. By changing one of the hunting-tooth

Spindle with oil supply

Graphited bronze bushing



Picker stop motion

gears, any desired length of lap may be made. In case a picker has been stopped before a whole lap is made, it is simple to re-set this stop motion so that a new lap may be started at once without having to run out the rest of the previous lap.

Aldrich Machine Works, Greenwood, S. C.

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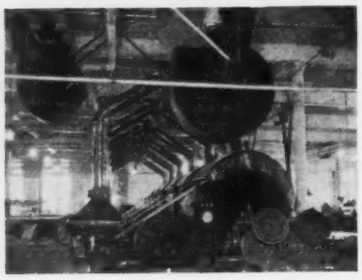
Exhaust Blower for Slashers

The accompanying illustration shows an application in a southern mill where formerly were used a 25-hp. blower for exhausting from six slashers, and a 7½-hp. blower for exhausting from the six size boxes. The revamped application makes each unit independently operated with one exhaust fan each, with size box and hood exhausted by a ½-hp. extension shaft type fan, making a total of 3-hp. fan load instead of 32½-hp. fan load used previously. The two large blowers formerly used are shown in the foreground of the illustration.



Individual exhausts on slashers

Propellair, Inc., Springfield, Ohio.

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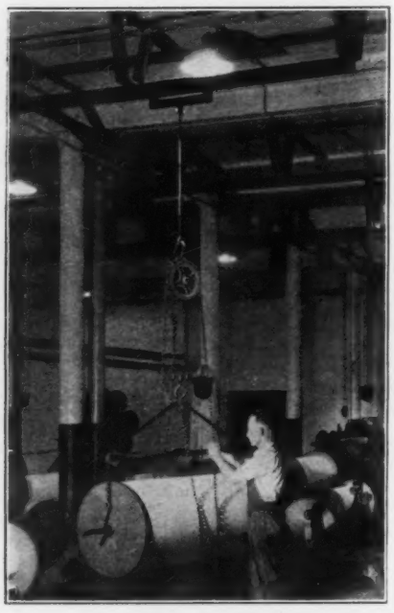
Spool or Beam-Spotting Unit

A recent development is a spool-spotting overhead trolley composed of four ball bearing trolley wheels running on a standard I-beam track, and tied together by a steel bar on which a fixture is mounted for suspending a chain hoist. The trolley wheels can be furnished with grease fittings for lubricating; this is accomplished through the axle, a hole permitting the grease to enter the ball race of the bearings. The labyrinth sealed bearings of the wheel, and the sealed and protected bearings are features.



Beam-spotting unit

Mathews Conveyor Co., Ellwood City, Pa.

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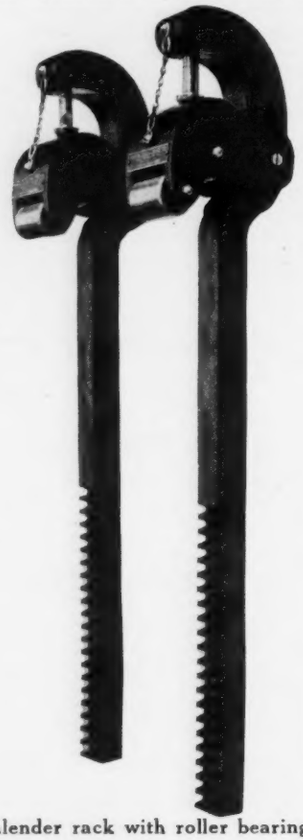
Roller-Bearing Calender Rack

A roller bearing calender rack, for Kitson, Potter & Johnson, Woonsocket and Whitin (flat back) machines, is equipped with a "safety release" which operates at approximately 1,800 pounds pressure, functioning before breakage of other parts, it is explained. The roller bearing rollers are oil-sealed; each roller contains two seals and requires greasing only every 30 days. The pins in the bearings are made of high grade nickel alloy steel.



Calender rack with roller bearings

As the release shaft in the top of the head releases, the slots in the neck of the rack allow the cap part to slide upward to release undue strain on the racks. Zerk fittings are used in the ends of the pins for greasing the bearings and rollers; there are no oil holes in the rollers or racks. Reduction of split laps, prevention of soft and fluffy laps, and elimination of laps are among the claims made.

Martin Textile Device Co., Winston-Salem, N. C.

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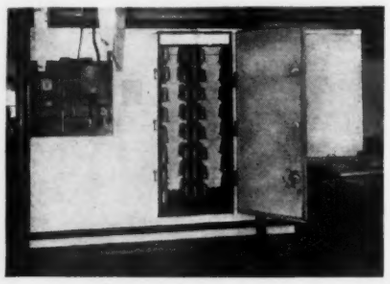
New Lubricant

A new type of lubricant, Lubriplate, is white in color, and deposits a permanent, adhering, minutely thin metallic film on bearing surfaces, for protection against wear and corrosion. It does not, the manufacturers state, stain or spoil fabrics and materials in process. It has been especially applied on spindles, twister rings, braiders, card bearings, etc.

Lubriplate Corp., 20 Exchange Place, New York City.

Silk Conditioner

The H-W conditioner for conditioning silk on the cone was recently placed on the market, after having been tested for more than a year in the plant of the Belmont (N. H.) Hosiery Co. This conditioner, fully patented, is a water vapor unit. The manufacturers point out that it provides uniform and thorough penetration of moisture through the cone; practical elimination of sleazy knitting without backwinding. Silk may be kept in proper condition for long periods without mildew. Full automatic controls eliminate attention during conditioning periods.



Silk conditioner

The Industrial Dryer Corp., Stamford, Conn.

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Traveler Design

A new design of traveler puts the principal contact on the top of the ring flange rather than at the inner horn under the ring flange. This, it is pointed out, facilitates the starting of new rings and eliminates a wavy condition on the inner flange of the ring caused by the unsteady motion of the traveler; utilizing the gyroscopic motion of the traveler in motion.

A twister traveler which is flat at the friction surface and oval at its foot and the top is another development which, it is pointed out, gives a uniform frictional drag and reduces chafing.

National Ring Traveler Co., Providence, R. I.

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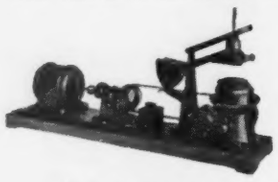
New Tester

In a new fabric abrasion tester, a combination rotary and rolling motion is used on the test specimen subjected to wear; the rotary motion is to test both the warp and the filling, the rolling motion subjects the cloth to attack from all angles, it is pointed out. After every 200 rubs, the direction of rotation is automatically reversed. The specimen is tested under a dead weight load. The design of the clamp is such that the amount of tension on the test specimen can be adjusted and measured, it is pointed out. The tester is equipped with an electric motor drive, and an automatic clock or counter on which the number of rubs is registered.



Abrasion tester

A new model yarn tensile tester employs a new type of constant speed

drive, for imparting a constant speed of pull. The new type gravity drive need not be connected to any source of power, it is pointed out, is vibrationless; may be adjusted to any constant speed of pull up to 40 inches per minute; consumes no power or fuel; the mechanical feature is the falling of a dead weight, controlled by governors.

Testing Machines, Inc., 314 Broadway, New York City.

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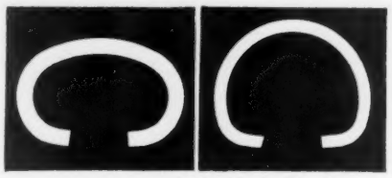
New Traveler

A new traveler is made in an oval shape arrived at in an endeavor to produce a traveler which would reduce friction and provide a more even tension without strain on the yarn, and to permit a traverse motion along the



Left, new oval-shaped Circle D; right, regular style traveler . .

traveler to lessen the tendency of the yarn to cut the traveler in a single place. The manufacturers point out that with this traveler, the outside horn of the traveler does not drop down against the web of the ring.

Victor Ring Traveler Co., Providence, R. I.

:: :: ::

Treated Spinning Tape

A spinning tape, "Non-Skid Treated Spinning Tape", is treated with a non-skid dope to provide a positive drive with no slippage on the spindles, and to produce yarn with no soft places. The tape, it is stated, gives approximately one-third additional wear and, because of its non-slipping properties, releases horsepower from the frames.

Hope Webbing Co., Providence, R. I.

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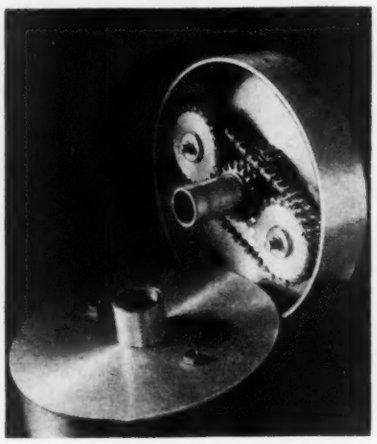
New Roving Compound Differential Motion

A new differential motion, invented and perfected by W. C. Stewart, has no gears inside or outside, using instead highly efficient chains and sprockets made of the best alloy steel and treated. The sprockets carrying the



Differential motion for compound

load are mounted on Hyatt roller bearings and the entire unit is oil tight and partially filled with lubricating oil; needs re-filling only at long intervals, it is pointed out.

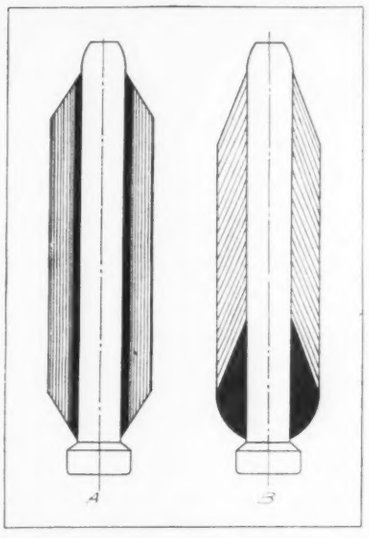
Along with the chain drives recommended for driving spindles and bobbins, the compound produces at least 10 per cent increase in production, it is claimed.

Stewart Machine Company, 623 East Franklin Ave., Gastonia, N. C.

:: :: ::

Two-Speed Spinning Motor Drive

A means of increasing the speed on a spinning frame after the build on the bobbin has been relieved of the tension at the start of the doff is the purpose of the W-W two-speed motor drive for spinning frames, developed in conjunction with Westinghouse Elec. & Mfg. Co. The principle is shown in the accompanying illustration. The shaded portions of the sketches show the yarn spun at a lower speed, and the unshaded portions show the yarn built on the bobbin after the increase in speed. Figure *A* is warp wind; Fig. *B*, filling wind. The tendency for the ten-



sion of the yarn to increase with the ring rail at the top position is taken care of by the use of the traversing type of threadboard to relieve the tension.

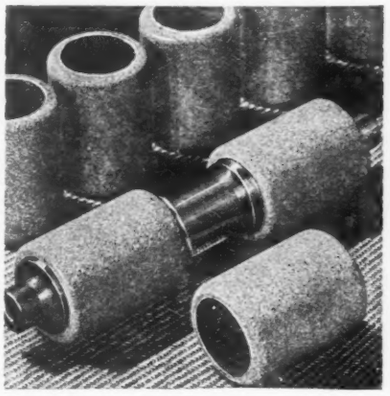
An alternating current wound rotor induction motor is used. When the rotor windings are connected to resistance, the motor operates at the slow speed; and when the resistance is short-circuited, the motor operates at high speed. A limit switch is mounted on the builder lever of the spinning frame, operated by a dog connected with the filling arm. The position of this switch determines the speed of the motor, as it operates contactors which cut the resistance in or out. A special magnetic starter is supplied to start and stop the motor and provide overload and low-voltage protection, as well as reduced starting torque.

Increased production over ordinary speeds is cited, since only 20 per cent of the yarn in a doff is spun at the low speed at the start of the bobbin, the average speed of operation will be greater than ordinary constant speed. With the tension relieved at the start of the bobbin, end breakage is reduced, it is explained.

Whitin Machine Works, Whitinsville, Mass.

Cork Rolls and Machinery

A re-inforced cork cot recently developed is made from sheet cork, reinforced by gummed cloth, and rolled to the desired size, and stretched over the steel roll. The steel roll is dipped in water, and the cot forced on the roll, the gummed cloth backing adhering the cot to the roll, and forming a



Cork rolls

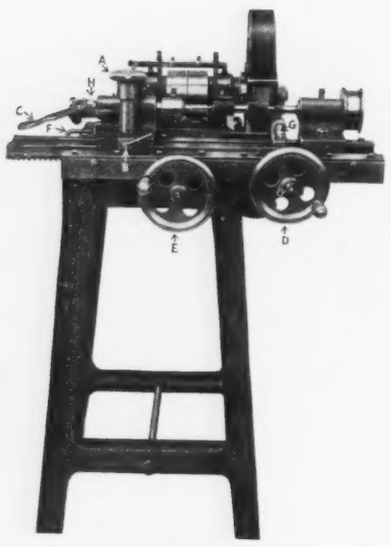
stiffening shoulder where the cot extends beyond the bearing surface of the steel roll.

A roll covering machine for these cork rolls is developed in which a spreading thimble precedes the roll as

Cork roll coverer

it is forced into the cot, no friction being placed on the gummed cloth backing by the fluted roll surface. The gummed cloth backing provides strength allowing the cot to be stretched on over the roll, as explained. When the cot is in position, the thimble has passed through the cot and the tension is released. The entire operation requires only a downward push of the lever after the roll and cot are set in position. The machine may be adjusted for rolls of various sizes, and adjusting screws may be set for placing the cot on the roll in any desired position. The machine is 22 inches high.

A hand traverse re-buffing machine for surfacing these cots on the roll is designed for pulley drive for grinding wheel or for line shaft drive for the roll. It is adjustable for different length rolls. An adjustment for light



Cork co: buffer

or deep cuts is provided. The hand traverse wheel operates the carriage on which the roll is turning. Adjustment provides giving cots on the same roll, and for same diameter parallel grinding.

Sonoco Products Co., Hartsville, S. C.

:: :: ::

Pick Counte:

A new line of pick counters and special counters designed and built especially for the textile industry has been developed. W. A. Kennedy, pioneer

Pick counter

pick counter representative in the South, heads the organization, with F. W. Warrington as field manager. All associates of the organization are graduates in textile engineering.

WAK Incorporated, Dilworth Station, Charlotte, N. C.

:: :: ::

Abington Developments

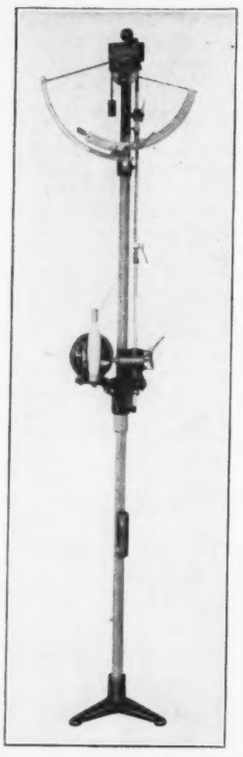
A new hand knotter which ties a "non-slip", close-trimmed knot, for handling a wide range of coarse and fine cotton yarns as well as rayon and silk, has been developed. Also a combination yarn dyeing machine which will dye or bleach yarns on either beams or packages and will dye roving on perforated bobbins. Vat, sulphur and direct colors are used. A small sample dyeing machine unit is available for establishing formulae before dyeing on the larger machines.

The Cook-Goldsmith vacuum card stripping and waste conveying system has been adapted to woolen, worsted and asbestos carding; each installation is designed especially to suit the individual conditions.

Abington Textile Machinery Works, Abington, Mass.

Single Strand Yarn Tester

A new model machine for strength and stretch tests of a single strand of yarn is driven by direct connected motor, and has the inclination balance type head, with load scale moving be-



Single strand tester

hind the fixed pointer, putting the reading always in the same place on the machine. The stretch measurement is read within two inches of the load scale pointer. Two capacities are available. The machine is equipped with automatic instantaneous reverse, and stands sturdily on the floor. It is instantly positioned for 10-inch length, 20-inch length, or ½ meter lengths sometimes customary for thread and silk or rayon.

Henry L. Scott Co., 101 Blackstone St., Providence, R. I.

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Overhead Winding Spools

A new development in overhead winding spools is a spool which has a removable head. On the inside of the head is a colored ring. During the overhead winding process, this color ring gets visible, the upper fiber head is removed and the yarn wound off of the small head of the spool. This is done to produce more satisfactory overhead winding, less breakage, and more even tension. It is particularly applicable to rayon yarn.

Adolff Bobbin Co., Inc., 576 Davis Ave., Kearny, N. J.

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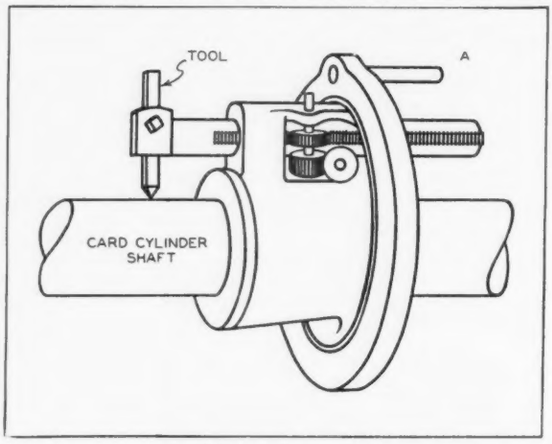
Pieco Goods Box

A special piece goods box has been developed for shipping. It is a three piece box with specially re-inforced corners, and when oversize can be strapped. It is susceptible of storage in small space when folded flat, and provides a convenient and useful container.

The Hinde & Dauch Paper Co., Sandusky, Ohio.

For Turning Card Shafts

A portable shaft-turning machine, designed to reclaim worn card cylinder shafts without dismantling the card, is a portable lathe with a hollow spindle to clamp onto any shaft with diameters



Shaft turner

from 1½ to 3-inch. The spindle is tapered and fitted with collets made to clamp the machine on short shaft ends. A rotating cylinder is fitted to the outside tapered diameter of the spindle. To re-turn a card shaft, the pulleys and bearing are removed from the end of the shaft. A shaft support is provided with the machine; this is placed under the card shaft next to the cylinder resting on the card.

C. E. Marsh, 1032 Hemphill Ave., Atlanta, Ga.

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Shuttle Threader Eye

An adjustable tension threader eye is designed for giving tension on the first pick, and for use in shuttles with either center or low filling yarn groove. Glass-hard tension pads, with glass-hard steel bushings are provided for even, uniform tension, along with hardened steel, porcelain or glass pins, and glass-hard steel guide pin to prevent yarn from dragging on the brass.

Shambow Shuttle Co., Woonsocket, R. I.

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New Flat Lingoe

New flat lingoes for Jacquard harness are made of nine-ply cabled linen. They hold the wire heddle rigid; there is no twisting of wire heddle and taking warp threads around them; there are no knots above the comberboard. The inside of the holes in the boxwood texture comberboard are glazed, eliminating friction.

John T. Hardaker, Inc., 4th and Poplar Sts., Charlotte, N. C.

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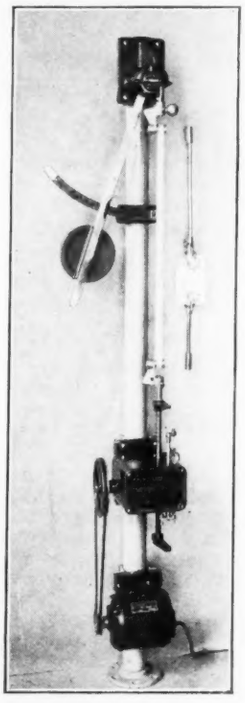
Hard-Facing Parts

The use of Haynes Stellite, in hard facing worn parts on textile machines, is a new development. Hard-facing consists in applying by the usual welding methods a wearing surface of an alloy particularly resistant to abrasive wear. This product is a cobalt-chromium-tungsten alloy, with inherent resistance to abrasion, due to its non-ferrous composition. Its being cobalt rather than iron, the alloy retains its original hardness practically unimpaired up to a red heat.

Haynes Stellite Co., 30 East 42nd St., New York City.

Combination Testing Machine

A new model tester of 150 pounds capacity, with fixtures for both yarn and cloth testing, is supported from the floor on a heavy metal post, with the motor fastened to the machine. No machine adjustment is required in



Combination tester

changing from yarn testing to cloth testing, and vice versa; these fixtures are so designed that when placed on the machine they are set at the proper distance. The yarn spools can be arranged to hold a one-yard skein if specified. The cloth clamps are positioned at 3-inch distance apart as required by the specifications for the grab method of fabric test.

Henry L. Scott Co., 101 Blackstone St., Providence, R. I.

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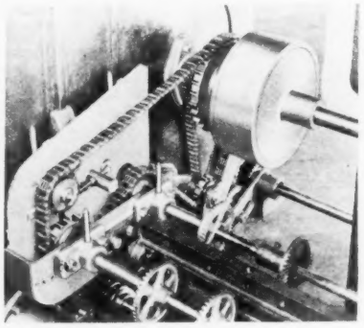
Spur Gear Compound and Chain Drive Horsehead

A new compound for roving frames rotates in the same direction as the main shaft; power is transmitted directly from the main shaft to the bobbin shafts, the cones controlling the relative speeds of the two shafts as



Compound and horsehead

the bobbin diameter varies; all gears are enclosed and run in an oil bath. A re-designed horsehead consists of a chain-drive arrangement for eliminating the rolling action previously encountered from the "gain and loss" of the frame; a silent chain is substituted for the gears. The spindle-driving gears in the head end are replaced by a chain drive. The three parts are furnished as one complete unit for replacement on Saco-Lowell frames; they are standard equipment on new frames.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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Improved Spindle

In an improved spindle, spring tempered blades are used preventing crooked and otherwise deformed spin-

—with spring tempered blades

dles caused by rough handling in the mill. A super-capacity oil base is used to increase the oil capacity by 100 per cent and extend the periodic lubrication to every three or four months.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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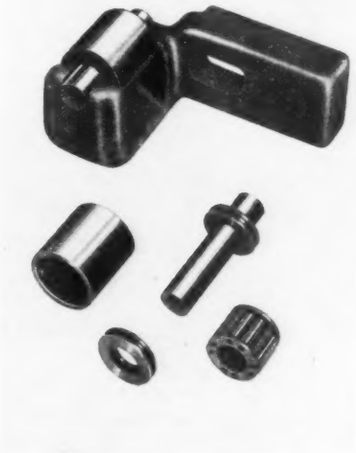
Roller Bearing Pitman Roll

A new roller bearing pitman roll consists of a sturdy roller bearing supported on a hardened steel stud. Close-fitting steel discs are used to retain grease and exclude dirt and lint. The cam contacts with a hardened steel shell which revolves on the rollers.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.



Roller bearing pitman roll

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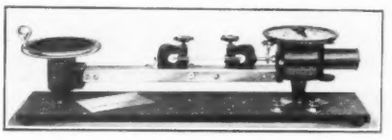
Portable Testing Machine

A portable testing machine for fabric, twine, etc., known as the Tensilgraph, has a capacity up to 100 pounds; it is 30 inches long, is hand operated, and works in either a hori-



Portable testing machine

zontal or vertical position. A newly developed accurate spring is used instead of the dead weight lever principle. The machine is built to test standard size specimens in conformity with accepted specifications and practice. The result is indicated on the dial by a pointer which stays at the breaking point of the sample until manually reset. A template for cutting test samples of fabric, and capstans for testing twine and similar material, are provided.

Henry L. Scott Co., 101 Blackstone St., Providence, R. I.

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Bobbin Stripper

A new type bobbin stripper, Type K, concentrates all waste at the machine where it can be checked daily, to permit locating bad spinning or improper setting of feelers. The machine, it is stated, prevents cutting of bobbin barrels and battering of tips, which cause breakage of yarn in the looms. Rapid cleaning of 6,000 to 7,200 bobbins an hour with one operator is another feature; the machine also cleans both automatic bobbins with rings and plain loom bobbins without rings, it is stated; when length and diameters are approximately the same, both kinds may often be cleaned at the same time without change of adjustment.

Each machine is adjusted to sample bobbin before shipment, when sample is furnished. All parts are interchangeable.

The Terrell Machine Co., Charlotte, N. C.

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Electric Roll Picker

A new design of electric roll picker was developed to meet the demand for a method of cleaning the rolls, journals, cots, saddles, etc., on long draft spinning frames. It is designed for use on 110 volt a.c. current, and consists of a special designed motor with adjustable handle and direct-connected picking spindle, fitted with 80 feet of cable and light resistance valve to prevent flashes and fires should the cable be accidently cut or short circuited while in use. In use, the operator connects the cable to any convenient outlet, turns the toggle switch in the handle of the motor and starts the picking. When the spindle has twisted out enough lint from the rolls, cots, etc., to be heavily covered over, it can be readily doffed by the thumb and forefinger of either hand.

The Centrif-Air Machine Co., Inc., Atlanta, Ga.

Yarn Count Calculator

A yarn number calculator, in the form of a circular slide rule, is designed for conveniently determining yarn sizes; and for converting from one numbering system to another. The

Count calculator

numbers in each system are graduated on a white celluloid back and the indicator points are marked on a transparent celluloid face. It indicates the true size of cotton yarn if actual percentage of regain is known; and in converting from one yarn numbering system to another, one setting of the dial gives equivalent yarn sizes.

Henry L. Scott Co., 101 Blackstone St., Providence, R. I.

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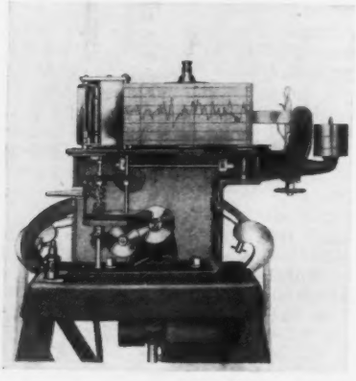
Sliver Tester

A precision instrument was recently developed and perfected to record graphically the actual linear variations in card or drawing slivers and slubber roving. The sliver passes between two



Sliver tester

accurately ground wheels, suitably compressed, and the actual diameter of the sliver is recorded continuously on a chart, showing the variations. The percentage variations are calculated from the chart. The use of the tester, it is pointed out, is to improve the product in each individual process and immediately observe the results.

Saco-Lowell Shops, 147 Milk St., Boston, Mass.

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Adjustable Napper Roll Grinder

With a new adjustable napper roll grinder, napper rolls of different lengths are ground with no lost motion in the traverse of the grinding wheels. Two rolls are in operation at one time. While one roll is being surface ground, another roll is being side ground. The traverse of the wheels is obtained by a reversing gear clutch mounted inside the frame end. The length of the traverse of the grinding units is controlled by adjustable dogs set on a bar directly above the traverse screw. When the grinding wheels come in contact with the dog, the direction of traverse of the grinding wheels is instantly changed; when this occurs the napper roll being side ground is at the same time reversed in direction, allowing the side grinding or disc wheels to follow the spiral of the wire as it is wound on the rolls.

B. S. Roy & Son Co., Worcester, Mass.

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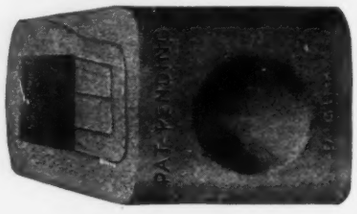
Loom Picker

A picker made to fit the picker stick without cutting or trimming has been introduced. Furthermore, it is pointed out, the bottom is cut at the correct angle to clear the race plate with the



Loom picker

stick at rest; the shuttle point hole is scientifically centered and is of the correct size, depth and shape, and seats the shuttle correctly; the cushioning effect absorbs shocks; the shuttle is stopped at practically the same place on each flight; is tightly wound, securely riveted and accurately moulded-to-shape.

Graton & Knight Co., Worcester, Mass.

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Adjustable Harness Strap

A harness strap in which adjustment is secured through lever and clamp, with no holes in the strap, and a scientifically designed clamp for distributing the strain equally over the full width of the strap, has been brought out. A steel hook supports the harness

Harness strap

hook for insuring permanent adjustment, and it is not necessary to touch the screw eye.

Graton & Knight Co., Worcester, Mass.

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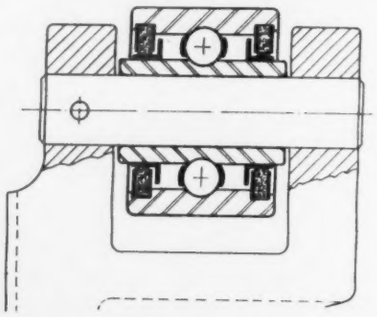
Ball Bearing Pitman Roll

A ball bearing Pitman roll recently developed is applicable to practically all types and makes of spinning frames and twisters with a minimum of assembly trouble. It is comprised of a single row deep groove ball bearing



Ball bearing pitman roll

completely enclosed by integral felt seals packed with a selected grease so that the unit requires no further lubrication. The ball bearing with its minimum of friction insures positive cam action; there can be no binding between the cam and ball bearing roll, from the accumulation of fly, it is pointed out, as the balls and their raceways are sealed against its entrance.

Fafnir Bearing Co., New Britain, Conn.

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Ball Bearing Slasher Creel Stand

Ball bearing application has been made to the creel stand which carries the section beams on a slasher, which, with the freedom of motion allowed, permits the warp to run out evenly and with a minimum of strain. The construction of the application permits of rapid installation and removal which is so essential when operatives are changing beams. Lubrication is not required, the ball bearings being prelubricated and positively sealed, thus insuring no damage to the warps at this point.

Fafnir Bearing Co., New Britain, Conn.

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Rubber Textile Accessories

A line of textile accessories embodies the use of rubber and rubber-and-fabric combination. The all-rubber parts, comprising frog bumpers and other types of bumpers, are composed of rubber compounds possessing shock-absorbing qualities and resistance to oil and grease. The fabric and rubber combinations embody three distinct rubber compounds, two black and one brown. The brown compound is used in the oil and wear resisting bearing in a reversible drop box picker and as the main body of paralleling plugs. The supplies are machine cut, vulcanized in steel molds.

Duck pickers of the "doll" or "tail" type are composed of 14-ounce chafer fabric; Draper pickers use the black compounds. The impact block, comprising about half of the bulk of the face of the picker, is made from laminated 14-ounce chafer fabric frictioned with the harder of the two black com-

pounds. The loop and binding layers covering the face are composed of 14-ounce chafer, frictioned with the softer black compound. The loop is rounded throughout, eliminating sharp corners. Hold-ups are composed entirely of 14-ounce chafer laminated and frictioned with the softer type black compound, vulcanized to one definite degree of hardness. Paralleling plugs are composed of a spiral wound body made of 14-ounce chafer frictioned with the extremely hard brown oil-proof compound, and covered by a couple of layers of the hard type black compound. Picker stick bumpers and bunters are of 14-ounce chafer frictioned with the softer type black compound, all vulcanized. Reversible drop box pickers for silk and wool looms are of the harder type black compound throughout the body, and carry the extremely hard brown compound round bearing over the slide rod. A spiral wound roll which makes up the bulk of the shuttle impact face is fastened to and tied in with the bearing material by a number of plies of 14-ounce chafer frictioned with the hard black compound.

Denman Tire & Rubber Co., Warren, Ohio.

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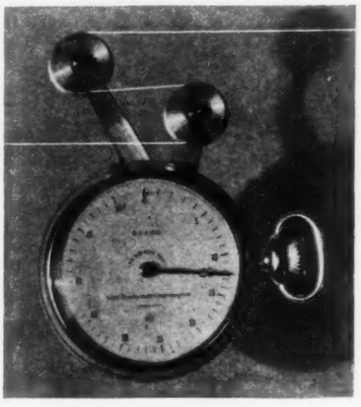
Tensometer

A means of determining the actual tension in warping, winding, quilling and other operations on rayon and other yarns is provided in the Tensometer.



For determining tension

The manner in which the device operates will be clearly understood from the accompanying illustration. It is handy and is of a size to slip readily into the pocket.

Sipp-Eastwood Corporation, Paterson, N. J.

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Deodorant and Disinfectant

For use in toilet rooms, etc., a renovator, deodorant and disinfectant has been developed, which requires no additional equipment. The product is called "Ren-O". It is pointed out that its use eliminates all foulness and germs, and leaves the atmosphere in a pure natural state. Crystal Cleaner is a powder variety of cleaner and is a solvent, used in mild proportions for washing walls, wood-work, etc. Pine Oil Scrub Soap is a heavy fluid oil of unusual strength, yet neutral and emulsifiable in water. It is especially adapted for cleaning and preserving linoleum floors, and in its diluted state is used for textile washing.

The Fitch Dustdown Co., Oakley, Cincinnati, Ohio.

Finger and Bar Carrier

A new design of spinning frame finger and traverse bar carrier, for silk and rayon spinning, carry the take-up bobbin on the spinning machine in a different manner. The bobbin lies on the driving roll ahead of the center of the axis, considering the rotation of the driving roll, and is supported in this position by ball bearings contacting the periphery of the bobbin flanges. These bearings are located so that the pull of the oncoming thread pulls the

Finger and bar carrier

bobbin firmly between the ball bearing and the driving roll, thus eliminating all possibility of the bobbin slipping when taking on yarn. This pinching effect, however, is not sufficient to injure the yarn, it is explained, but does provide a positive take-up, an even thread tension and eliminates hard twist.

The traverse bar carrier is of the conventional type, with the carrier integral with one of the fingers, but two ball bearings are used for carrying the traverse bar. These bearings are adjustable in and out from the center of the machine. A cast iron shoe which contacts the bearings is a part of the unit, and is attached to the shoe, permitting the bar to be located in the desired position. The shoes have a tongue extending down between the bearings to prevent its getting out of location. A safety strap underneath the bearing eliminates the traverse bar being accidentally removed from the runway while the machine is in operation.

Chemung Engineering Corp., 414 Carroll St., Elmira, N. Y.

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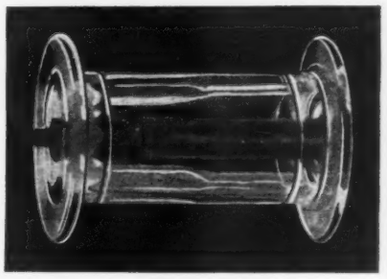
Pyrex Bobbin

A Pyrex bobbin, for use in processing rayon or natural silk, is made of a material of low heat conductivity with no noticeable contraction or expansion under varying degrees of temperature. The material after moulding is sub-



Bobbin of Pyrex

jected to a special treating process recently developed by the manufacturers of Pyrex, for establishing a hard, tough product. The hard, non-porous surface is not affected by moisture, waxes or acids used in processing, and may be changed from silk to rayon or from rayon to silk without cleaning. The low heat conductivity, it is explained, prevents burning or baking the yarn contacting the bobbin surfaces. The metallic center or core of the bobbin is readily removable. Ball bearing quilling and winding spindles developed for use with this bobbin remain stationary in the machine bearing, the bobbin revolving on the shaft of the ball bearings inserted in the removable core. The various cores, it is pointed out, reduce materially the number of bobbins required, as one design of bobbin can be used on all operations.

Chemung Engineering Corp., 414 Carroll St., Elmira, N. Y.

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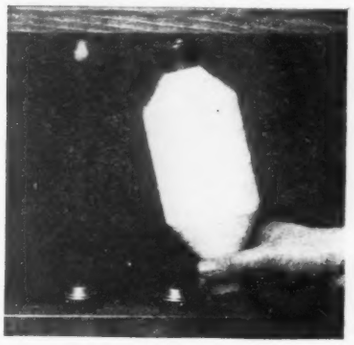
Skewerless Bobbin Holder

A skewerless bobbin holder has been developed to take the place of the conventional skewer. The principle of the new holder is a one-ball ball-bearing



—holds bobbins without skewers

which takes both the thrust and rotary loads. Even tension on all bearings is assured, it is explained, by having the ball-bearing confined to but one ball. In creeling, the operative uses the same final motion as with the regular type of skewer.

The Belger Co., 36 Pleasant St., Watertown, Mass.

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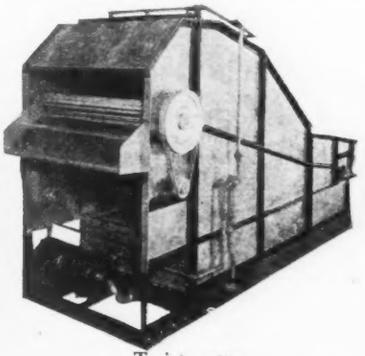
Yarn Conditioning Machine

A new yarn conditioning machine, known as the Twist-Setter, for setting twist in and strengthening yarn, sprays a prepared solution on the yarn passing through it on a conveyor. The yarn is carried under a spray by a specially



Twist setter

designed conveyor; the machine is equipped with a reservoir for collecting spray not absorbed by the yarn; immediately over the reservoir is a screen for filtering the solution, and collecting the dirt and trash removed from the bobbins. The screen is removable for cleaning. The drain of this

tank leads directly to the suction of the centrifugal pump which supplies the machine, and no priming is necessary when the machine is started.

Bowers & Barksdale, Station E, Box 18, Atlanta, Ga.

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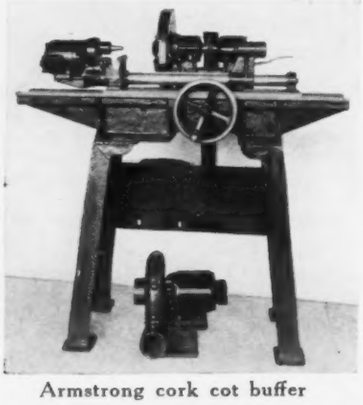
Cot Buffing Machine

A precision machine has recently been designed to simplify the work of buffing seamless cork cots. The machine weighs 445 pounds, is of sturdy construction, and is easily adjusted to handle the full range of roll sizes. It



Armstrong cork cot buffer

is completely motorized with a ¾-hp main drive motor, a ⅛-hp cot spindle motor, and a ¼-hp exhaust fan motor. Selected precision type Timken roller bearings are used on the main spindle and tail stock; the diamond alloy wheel dressing tool is always in position, it is explained, and does not require any change in machine fitting to be used. A specially constructed abrasive wheel is 12 inches in diameter with a 1-inch face. The maximum roll capacity is 4-inch diameter overall and 19-inch length overall. Motor, bearings and spindles are interchangeable.

Armstrong Cork and Insulation Co., Lancaster, Pa.

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New Check Strap and Loop Picker

A new leather check strap called "Tannate Special", which, it is pointed out, is made of exceptionally heavy and strong leather, and a leather loop picker, have been developed. These are made of Tannate leather previously used as flat belting.

J. E. Rhoads & Sons, 35 N. Sixth St., Philadelphia, Pa.

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Band Control Device

Improvements in the Cook-Taylor banding device for spinning bands include a method of preparing bands to be applied with the device, to eliminate the so-called locked-twist in the band. Also, the device has been developed so that it is impossible to apply the bands at any higher tension than is desired. The principle of the device is to provide a means of determining the proper tension at which bands should be applied to the spinning cylinders, and a method of applying these bands so that every band will be tied on at the same and the correct amount of tension, for reducing unnecessary power consumption, increasing life of bands, and producing more even twist by eliminating slippage of spindles.

Cook-Taylor Company, Box 186, Fall River, Mass.

Draining Slasher Cylinders and Dry Cans

The use of the differential pressure system for draining dry cans, it is pointed out, eliminates the bucket method and the use of traps on each dry can; a syphon controls the quantity of steam to each cylinder by a restricted opening in the exhaust steam line from each can. A differential pressure valve takes care of the condensate.

A rotary syphon for draining slasher cylinders drains the cylinder by syphoning the condensate through a rotating valve. There are three syphon pipes, the drainage of the cylinder is accomplished by opening the discharging syphon pipes through a combined maximum of 135 degrees and closing them through the remaining 225 degrees for each revolution of the slasher cylinder. No traps are used.

Atkins & Co., Inc., Palmer, Mass.

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Food and Drink Cart

A new model cold drink and food cart has capacity for 480 bottles and room for sandwiches, pies, gum, tobacco and other sundries in a shatterproof glass display case. The ice box

Food and drink cart

is scientifically designed, insulated and ventilated with a brass drain cock. The body of the cart is a sea foam green duco, trimmed in a darker green. The dimensions are 6 feet, four inches long, 54 inches high, and 24 inches wide.

Wright Company, 84 Luckie Street, N. W., Atlanta, Ga.

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Roll Spacing Determinator

A means of determining the effect of different roll settings, without the necessity of change on the regular mill equipment, is the purpose of the roll spacing determinator. This device consists of a mechanism involving a series of adjustable sets of rolls which can be rapidly adjusted; the sample stock is run through and means are provided for examining the effect upon the cotton by the use of different drafts, as to evenness, breaking strength, etc.

The Belger Co., 36 Pleasant St., Watertown, Mass.

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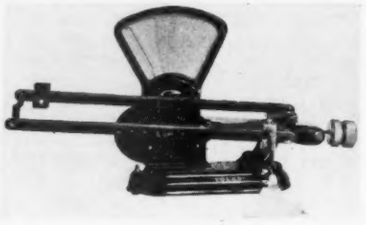
Impregnated Paper Quill

A hardened impregnated paper quill equipped with metal ferrule for electric contact and mechanical feeler purposes, has been developed. The paper quill is non-reactive to conditioning and atmospheric changes, preventing swelling, shrinking and warping, it is pointed out, and has a smooth hard finish and close fitting tapered ferrule. It is equipped with short metal ferrule for mechanical feeler motion, and with long metal ferrule for electric feeler motion, although the long ferrule may be used also with mechanical feelers. The ferrules are equipped with flange for use on smooth shuttle spindles with ear clip arrangement to hold the quill in place.

American Paper Tube Co., Woonsocket, R. I. :: :: ::

Variation Auto Gauge

A device for measuring changes in the physical characteristics of materials during processing, or before shipment and after receipt, is the variation gauge, which may be furnished with



—auto gauge

any chart needed, with calibrations in per cent, elasticity, specific gravity, pounds and ounces. Two sizes are available, for samples from two ounces to three pounds and for samples from four ounces to six pounds. Increases or decreases in elasticity, specific gravity or moisture are shown. It is specially designed, in textile use, for measuring the moisture of cotton, etc.

Toledo Precision Devices, Inc., Toledo, Ohio. :: :: ::

Fire Extinguisher

In an improved model one-gallon fire extinguisher, the operating valve is at the back instead of the front when extinguisher hangs on the wall, to eliminate accidental opening and discourage tampering. The liquid level glass port and air pressure gauge are directly in front; a hanger and hook have been provided for hanging on wall or post. A simple and positive method of locking the air storage pump piston handle to the extinguisher permits it to be carried by the handle. The operating valve functions fully at a half-turn of the hand wheel. A carrying strap is provided which may be slung over the shoulder.

Pyrene Mfg. Co., Newark, N. J.

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Industrial Thermometer

A new industrial thermometer includes among other improvements a new snap case-front, designed to make cleaning easy and at the same time make breakage of the easily removable glass front difficult. A tongue at the top of the case fits snugly in a groove in the front. Little effort is required to remove, clean and replace the new front, which is held firmly in place by a snap device.

C. J. Tagliabue Mfg. Co., Park & Nostrand Aves., Brooklyn, N. Y.

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Belt Lacer

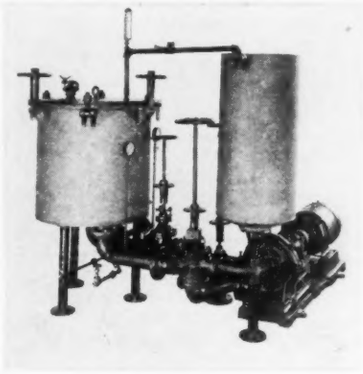
A new development in a belt lacer is a new type vise lacer with a capacity for lacing belts up to six inches in width in one operation. The jaws are designed to contact the hooks only. The laced may be used in any ordinary bench vise.

Safety Belt-Lacer Co., Toledo, Ohio.

Dyeing, Bleaching and Finishing

Franklin Dye Machines

The Franklin Process package yarn dyeing machine has been developed in stainless metals—all aluminum, all Monel metal—or with stainless steel kier and iron piping and pump. These



Franklin package dyer

stainless metals, it is pointed out, eliminate saddened colors, also off-shade work and stains, which occur when the machine is not entirely free of dyes previously used. They also reduce cleaning time, and are especially suitable for bleaching and light delicate shades.

The Franklin raw stock dyeing machine is available with all metal aluminum alloy construction or with cypress

Franklin raw stock dyer

kier with lining, pipes, pump and all fittings of Monel metal or stainless steel. This machine dyes in a closed kier under hydraulic pressure. It circulates the dye liquor through the stock. After dyeing the stock is hoisted out of the machine in a solid cheese and transferred to the extractor or squeeze rolls.

Franklin Process Company, Providence, R. I.

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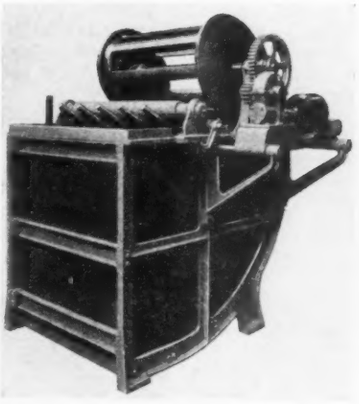
Butterworth Developments

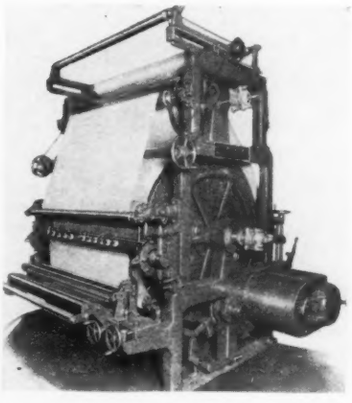
During the past two years, improvements in textile finishing machines have been notable. A new material, acid and corrosion-resistant, known as Haveg, a phenol-formaldehyde composition with an asbestos base, has been introduced, and several machines and parts for machines have been made of it. One was a 4-string piece dyeing



—made of Haveg

machine for wools and worsteds. The claim for Haveg is that being acid and corrosion-resistant, it permits exact matching of colors.

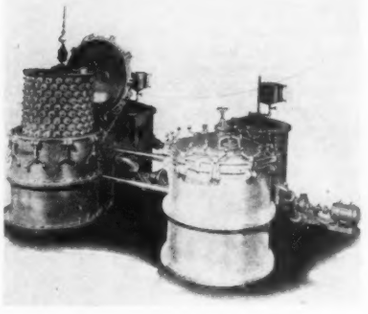
Another new machine is the pot spinning rayon machine, with a tra-



Finishing unit on Sanforizer

verse action five times as fast as machines previously made. Because of the speedy traverse action it is claimed that a better cake is formed, that is easier to wash and condition. The cake has an open basket weave.

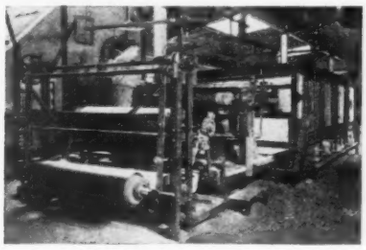
Several improvements have been



Ultra package and beam dyer

made on the Sanforizer, including an improved blanket tension device, for giving greater adjustment and longer life of the blanket. The blanket also can be changed with a minimum of lost production.

The Ultra package and beam dyeing machine is another development. This machine dyes from the inside to the outside, or from the outside to the inside. It is made in sizes from the one-pound sample laboratory model up to sizes for the dyeing of 25, 50, 100, 200, 300, 500, 600, 800, and 1800 pounds of yarn on tubes. The 100, 500, and 800-pound models may be used for the dye-



Solvent recovery coating machine

ing of warp yarns on a section beam in lots of from 100 to 2,000 pounds per dye batch. Up to four machines can be coupled.

Another machine is the Butterworth-Thompson solvent recovery coating machine, which, in addition to coating fabric and paper, it is explained, recovers 85 per cent of all solvents that go into the coating. It is claimed that the recovery of solvents is effected at practically no cost other than the water used.

H. W. Butterworth & Sons Co., Philadelphia, Pa.

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Monel Metal Dye Machine

The latest model Super dye machine for all types of hosiery, is entirely of

Monel metal dye machine

Monel metal construction, in sizes ranging from 25 to 300 pounds per load capacity. The model shown is direct-geared, motor driven.

Rochester Engineering and Centrifugal Corp., 110 Buffalo Road, Rochester, N. Y.

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Iron-Removal Filter

The Ferrosand water filter is of the pressure type and is designed to remove ferrous or soluble iron from ground or well water supplies which are comparatively clear when pumped but which cloud upon being warmed or upon standing. In appearance it resembles the conventional sand filter, although instead of containing a bed of filter sand, it is equipped with a bed

of Ferrosand mineral with the property of effecting the precipitation of soluble iron in well water supplies so this metallic impurity may be completely removed by the Ferrosand mineral bed in the filter and the water made clear and free of iron.

Hungerford & Terry, Inc., Clayton, N. J.

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New Extractor

A new extractor of greater centrifugal force and productive capacity and safety has been developed. About 10 per cent greater capacity is secured through extra depth and width of the top ring. The extractor, known as the "Gyro-balanced", is a development of the familiar link-suspension type. At top and bottom the links are carried in free-floating, non-friction ball bearings. When the revolving basket moves to compensate for an out-of-balance load, it is pointed out, the correcting movement takes place immediately. Each rotating part is dynamically balanced before assembly and then the whole assembly is dynamically balanced. All stress-bearing members are of steel; joints are welded; the hoops which support the basket wall are set on edge, and are machined on the inside.

Bird Machine Co., South Walpole, Mass.

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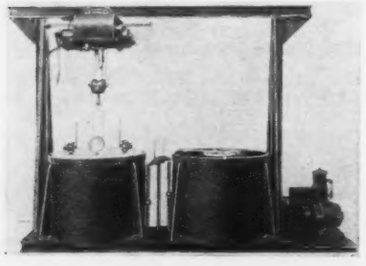
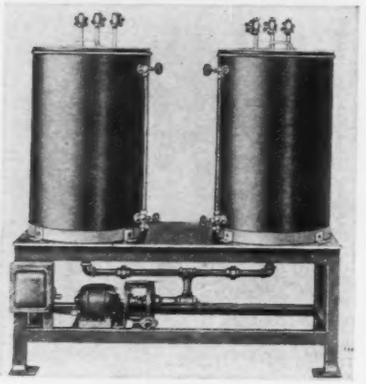
Silk Impregnator

The Rochester silk impregnator was developed for the express purpose of soaking silk. Its operation is predicated on the employment of a vacuum which removes air from within the fi-





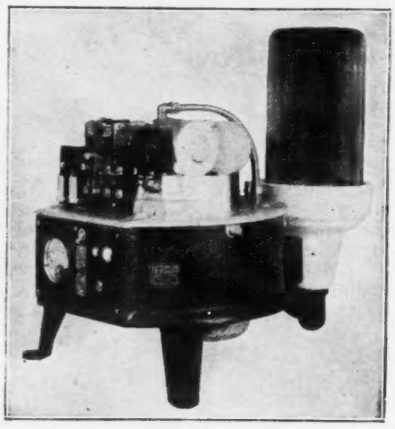
Silk impregnator with pumping unit

ber, permitting the soaking solution to penetrate more thoroughly and in this way produce a better soaked yarn. A two-tank unit includes impregnating tanks, vacuum pump unit, hoist and spray head, as shown; soaking solution tank unit with motor-driven pump for pumping solution to impregnator spray head.

Rochester Engineering and Centrifugal Corp., 110 Buffalo Road, Rochester, N. Y.

Hardimeter

An instrument which uses the photo-electric cell, or electric eye, for automatically testing the water produced by a Zeolite water softener and sounds an alarm when the hardness exceeds any predetermined figure, has been announced. The instrument also checks the brine wash water so that the softener will not be placed in service until all of the brine has been removed. The instrument is connected to the soft water supply line by a small copper tubing, and at predetermined intervals a sample of the water automatically passes into a glass cylinder. A small quantity of chemical is mixed with the sample of water and if the water is



—with electric eye for water measurement . . . . .

zero hard no change occurs in either the color or turbidity of the sample. The slightest trace of hardness, however, causes both a turbidity and a change of color. After time for reaction of the chemical with the sample, a beam of light is passed through the glass cylinder containing the test sample and strikes the photo-electric cell. The electric eye has the power of converting light into electricity so that by measuring the amount of electric current generated by the light sensitive cell, there is a definite measurement of the transparency of the sample with its chemical reagent. The observation by the electric eye of a sample of zero hardness water gives a certain definite output of current, but with hardness present the reaction of the chemical reduces the transparency of the sample so that the amount of light falling on the electric eye is reduced with a corresponding decrease in the electrical output. The hardness can thus be determined by readings on a meter scale. Whenever the water hardness is found to be greater than the predetermined hardness for which the instrument is adjusted, an alarm is given by ringing a bell, the illumination of a light, or both. The alarm or signal is continuous until a reset key is operated.

It is a well-known fact that the softener seldom delivers the same number of gallons of soft water between any two regenerations. For this reason alarm meters are set for minimum capacity and softeners are often regenerated short of exhaustion. The electric eye is a practical means for securing the full capacity of a softener without danger of overrunning. When the instrument has indicated that the softener is exhausted, the operator proceeds to regenerate it, and throwing a switch key mounted on the instrument causes the Hardimeter to continually sample and test the wash water, and changes the signal circuit so that no further alarm is given until a sample tests zero or salt free. The moment zero or salt free water is available another continuous signal is given until the reset key is operated. The Hardimeter is offered in two models, one designed for use where water is practically uniform in color and turbidity; in cases where water to be tested varies appreciably in either color or turbidity, an instrument is used with two glass cylinders and two photo-electric cells.

Elgin Softener Corporation, Elgin, Ill.

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Dyeing Machine

A vertical combination beam and package dyeing and bleaching machine is designed with reverse and double circulation features. It has only two operating valves, a four way valve and a drain valve. This reduces the chance of losing dye liquor through leaky valves, it is explained. A beam or package carrier automatically centers on the packing joint when placed in the machine. The machine dyes up to 400 pounds of yarn on beams, or 300 1-pound packages or 200 1-pound cones. It is available with belt, motor or V-belt drive.

Morton Machine Works, Columbus, Ga.

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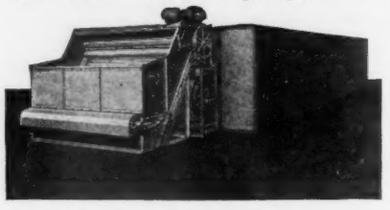
High Speed Raw Stock Dryer

In designing a new raw stock dryer, compactness and increased drying capacity were emphasized. Only one motor is employed to drive both the conveyor and blowers, with no belt in the machine; the automatic feed and its drive are the only exposed moving parts. There are no projections on the side walls. The conveyor is in sec-



Raw stock dryer

tions of perforated steel plates, each supported by a steel bar; these bars are supported at the ends by a pair of heavy roller chains. The conveyor possesses a special stock retaining feature, a traveling integral guard rail fitted to the machine. The feed and conveyor are equipped with Reeves variable speed drives. The side panels are removable. The double suction blowers are at the sides; all line-shaft bearings of the blowers are in insulated and cooled sleeves, outside the heat zone; the blowers are capable of producing a positive static pressure.

Heating coils cover the entire area above the conveyor in the air chamber. Air from the blowers passes over the coils, then down through the stock, returning to the blowers and the heating coils for re-heating and re-circulation, saturated air being exhausted. The heating coils are of the horizontal "pipe-within-a-pipe" type, and are staggered.

Philadelphia Drying Machinery Co., Stokely St., Philadelphia, Pa.

Sanforizing

The Sanforized process of controlled shrinkage was developed by Sanford Cluett, of Cluett, Peabody & Co., making the shrinking of cotton and linen fabrics a science. It is the outgrowth of the engineer's mind for specific mechanical control. The equipment, consisting of feed, tenter frame and Palmer, is adjusted in each case to remove the full amount of shrinkage which preliminary washing tests have shown to be present in the fabric. The fabric that comes from the Sanforizing machine must be within a tolerance of ¾ of 1 per cent of the pre-tested fully shrunk yard of fabric in order to be classified as "Sanforized-shrunk". Approximately 30 mills have already been licensed to use the Sanforized process of controlled shrinkage. During the past year fabrics Sanforized-shrunk have been widely popularized in women's ready-to-wear, piece goods, men's washable summer clothing, work clothing, shirts, pajamas, underwear, draperies, upholstery fabrics, slip covers, uniforms, and many other uses.

Cluett, Peabody & Co., Troy, N. Y.

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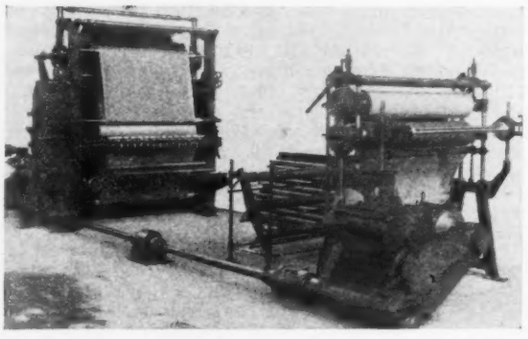
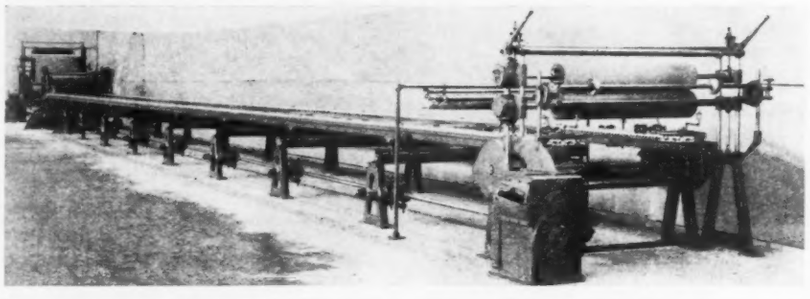


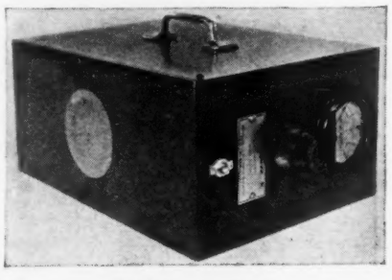


The Cluett-Peabody development: Sanforizing, tenter below, and finishing unit to left . . .

Photo-Electric Color Matcher

A portable photo-electric color matcher is arranged to compare samples at three points of the visible spectrum indicating whether two samples are matched. In general it is intended to be placed on the samples to be compared or its position reversed so that samples may be placed on the aperture for comparison. The power supply is operated entirely from a 110-115-volt, 60-cycle source; no batteries are required, but may be substituted. The optical system is independent of daylight or external artificial light.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.



Color matcher

Automatic Water Softener

A fully automatic industrial zeolite water softener is designed to conduct all of the operations of softening and regeneration with regularity and precision. By a combination of a meter operated switch and electric controls with a motor driven single valve, each operation is conducted as follows: At the end of the softening run the meter actuates the electrical controls which carry through the steps of cutting the softener out of operation, backwashing it for a regular period for cleansing, admitting a carefully regulated amount of saturated salt brine, and throwing the softener back into service and putting it again under the control of the meter, which governs the volume of water to be softened during the softening run, and initiates the start of the next regenerating cycle. The automatic control feature of the new model may be applied to existing manual-operated types.

The Permutit Co., 330 West 42nd St., New York City.

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Solid Curb Extractor

The external appearance of a solid curb extractor with V-belt drive has been changed by the addition of belt guards, foot guards and timer. The selective timer cuts off the power supply at the end of a predetermined run and signals the operator by light. Heavy duty ball bearings support the spindle; lubrication is applied from a single source; a spindle pulley which allows the application of endless belts without disassembling the machine is used, and a single screw belt tightening device. The spindle turns in two heavy-duty ball-bearings; the bearings are assembled in a sealed housing. The spindle pulley is attached to the bottom of the spindle, leaving the lubricant fitting and tension adjustment clear of obstructions, and allowing the endless belts to be passed between the floor and bottom of spindle for application or removal.

Solid curb extractor

Tolhurst Machine Works, Inc., Troy, N. Y.

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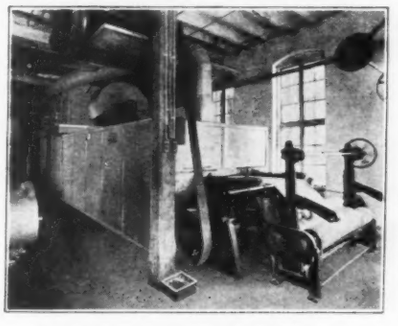
Tenter Frame Dryer and Housing

A new Hi-Speed tenter frame dryer and housing provides, it is pointed out, drying speeds up to 150 yards per minute; dry selvages at all speeds; drys heavy or light goods; with less steam consumption per pound of goods dried, and less power. The construction of the housing is such that it can be knocked down and relocated in the mill, if so desired, without impairing the efficiency or insulating properties. Adjustable drying nozzles are used, which automatically adjust themselves to the width of the goods run. A large part of the hot conditioned air is recirculated; the fresh make-up air is drawn from two end air locks. The steam heating sections are of the high pressure, extended surface type. Screen filters are located at strategic points for keeping the air clean and free from loose nap and lint. Several doors are provided for cleaning out purposes.



Tenter frame dryer and housing

B. F. Sturtevant Company, Hyde Park, Boston, Mass.

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V-Belt Driven Extractor

A new development on an extractor is an open top extractor driven by multiple V-belt drive from a motor at the back of the machine. With automatic time control, the extractor is started by either closing the guard cover or setting the time clock. The machine is shut off at the expiration of the time limit.

Haring & Stephens Co., Paterson, N. J.

Extractor

The latest O.T. extractor for the removal of excess moisture on various textiles, after washing, scouring, and dyeing, as well as the removal of surplus solutions from rayon and silk aft-

O.T. extractor

er soaking, has a Monel metal outer case or curb as well as a Monel metal basket. The Monel metal is resistant to alkali and acid, does not require painting, and does not corrode. The machine is equipped with timer and automatic brake, tapered roller main bearings, and cable suspension links on curb support.

Rochester Engineering and Centrifugal Corp., 110 Buffalo Road, Rochester, N. Y.

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Photoelectric Controller

In a new photoelectric controller, for counting, limit switch, door opening, etc., a phototube or sensitive contact operates a grid glow tube which in

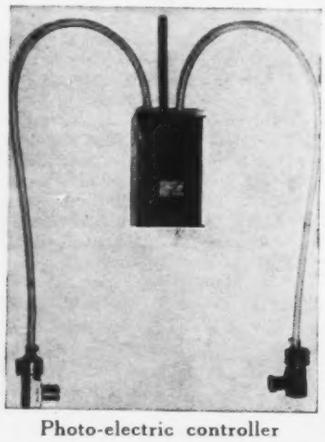

Photo-electric controller

turn closes a contactor capable of initiating any desired operation. Various light sources are available to operate at distances up to 22 feet from the phototube.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

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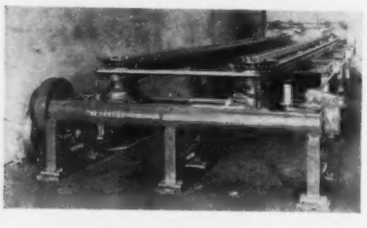
Automatic Tenter

All driving parts in the new ball-bearing automatic straightaway tenter turn in ball bearings. The driving mechanism is practically a separate self-contained unit to which the rails are merely attached. The gears driv-



Automatic tenter

ing the sprocket heads are enclosed in cast-iron housings supported on the cross rails. Cut spiral bevel gears, operating in an oil bath, are used.

A balanced mechanism for adjustment of the chain rails, which is electrically operated by a push-button control that may be operated while the machine is running or stopped, is designed to give freedom from binding of the drive shaft during the adjustment of the rails toward and from each other, to vary the size of the machine for different widths of cloth. Elimination of whip of the chain around the ends is another feature pointed out. The construction of the driving end of the machine is designed to remove all weight from the main drive shaft and place it on the main supports or cross rails.

The Textile Finishing Machinery Co., Providence, R. I.

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pH Recorder for Water

A pH recorder, using the new antimony electrode, is designed to furnish a reliable, continuous record of acid or alkalinity and to remove uncertainty regarding the quality of water to be treated by the textile mill, for example, for use in dyeing and washing solutions, or for their power plant.

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.

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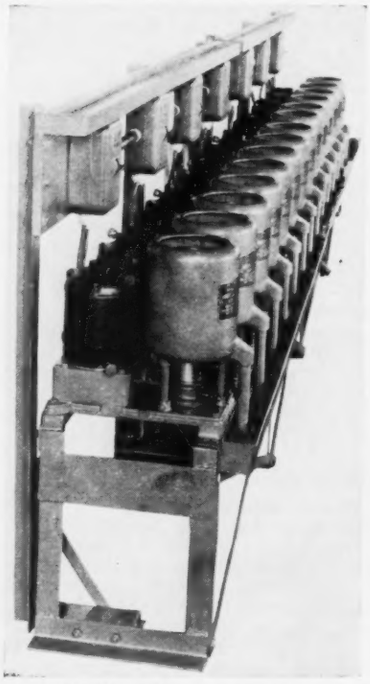
Single Package Extractors

A recently announced motor driven single package extractor consists of a container for a single spool, mounted on a vertical axis and driven by motor through a V-belt. The motor and extractor are mounted on a single base, and any number of units may be used in a battery. One control switch is furnished for each pair of extractors; an unusual method of dynamic break-



Single package extractor

ing being used for accelerating the cycle. In operation, with one pair of extractors stopped, the operator snaps the switch "off" on the next set. By the time he has removed and replaced the spools in the first two units, the second set has come to a stop. One operator can handle 16 machines on a two-minute cycle, it is explained, with an estimated output of more than 400 spools per hour.

Yarn dyed on the spool or package is handled by these machines; each package is spun singly and vertically. Each spool is handled without contact with other spools; the cores hold their shape and packages may be re-dyed without re-winding, it is pointed out. The machine is also suitable for extracting single trial packages and small batches.

American Tool and Machine Co., 1419 Hyde Park Ave., Boston, Mass.

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Monel Metal and Nickel-Clad Steel

Some of the recent applications of Monel metal in the textile industry are in the following: In the skein dryer of the Smith-Drum & Co., Philadelphia, Pa., for all the sheet metal parts including tank, splash-back and guard, also yarn tubes and yarn rotating members; in some installations all of the piping is of Monel metal, and all cast parts coming in contact with the dye liquor are of a high nickel alloy.

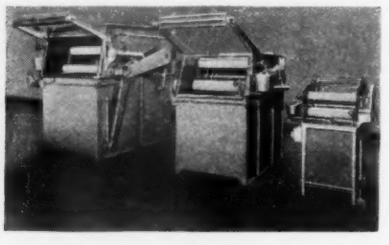
Welded tank lining and self-supporting emulsion tanks in the silk impreg-

Monel metal tubes, springs, etc.

nator of Rochester Engineering & Centrifugal Co., Rochester, N. Y., are of Monel.

A 60-inch Fletcher Whirlwind extractor was recently installed with Monel metal baskets.

Larson Tool & Stamping Co., use Monel metal in perforated metal spindles, tubes and springs as used in package dyeing. An improved type of constant speed and constant tension dye jig manufactured by Rice, Barton & Fales, Inc., Worcester, Mass., is



Nickel-clad and Monel metal by Grand Rapids . . . . .

equipped with Monel metal lining, immersion rolls, steam coil and cast parts.

Nickel-clad steel plate is steel plate protected on one side with a dense, homogeneous sheet of pure nickel; the

nickel cladding possesses the same chemical and physical properties as hot rolled or hot forged nickel; it is firmly bonded to the steel base plate. It is being used, among other textile applications, in the all metal self-supporting piece goods dyeing machines of Grand Rapids Textile Machinery Co., Grand Rapids, Mich., and the James Hunter Machine Co., North Adams, Mass. Machines of this type have welded nickel-clad steel tank with the super-structure and parts, well baffle, circulator, and steam syphon and jet of Monel metal.

The International Nickel Co., Inc., 67 Wall St., New York City.

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Rubber and Rubber Covered Products

Rubber covered rolls for the textile industry have been added to a line of rubber specialties including rubber burnisher brushes, the bristles of which are rubber, and hard rubber bearing stock for under water operation. The line includes also hard rubber dye sticks and rubber bleachery eyes. The roll lines include rubber covered dye jigg rolls, washing machine rolls, dye and bleach house rolls, sectional ring rolls for wool and raw stock scouring and dyeing, and back washers.

American Wringer Co., Inc., Woonsocket, R. I.

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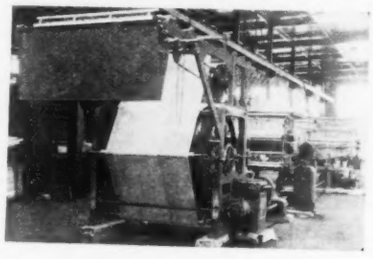
Sanforizing Equipment

The Universal sanforizing range, for controlling pre-shrinkage of both warp and filling, is built complete with the following sections: Feeding-in section, tenter section (includes both water



Sanforizing range

and steam sprays), draw roll section, moistening section, and Palmer section; all may be operated in synchronism, or, as may be desired in certain cases, the last three sections may be run as a separate unit with a small auxiliary motor by merely throwing a clutch. Integral with the tenter are variable speed controlled feed rolls required on sanforizing equipment; Schwartz electric cloth guiders are standard equipment. There is a patented device on the tentering section for giving automatic tension on the chains and for adjusting this tension without tools; totally enclosed drive shaft and gears; pin clips protected by metal guards; doffers for pin clips driven by independent motors; automatic shut-off for steam and water sprays; and motor driving mechanism with push-button control to adjust chain rails for various widths of cloth.

The distance between the tenter and draw roll is such as to provide space for a truck. On the Palmer, an improvement is the automatic lifting attachment on the electric ironing shoes, provided with a broad range of adjustments for compensating for the overrun of fabric caused from the cylinder coasting after the electric current is shut off.

The Textile Finishing Machinery Co., Providence, R. I.

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Rubber Covered Expander and Scroll Roll

An addition to a line of cloth expanders is a patented rubber-covered expander, consisting usually of steel bent bars with aluminum bobbins, octagon or round; with a rubber sleeve extending the whole length of the bobbin assembly. The bobbins are fitted with oilless bearings. The expander was particularly designed for light fabrics, such as silk, silk-and-cotton, cotton-and-rayon, etc. These rubber sleeves may be applied to the metal clutch expander.

A new patented scroll roll is made with a spiral curve or slot in the brass roller into which is screwed or twisted a ribbon of brass which forms the scroll, giving extra rigidity, it is pointed out. These are adaptable to any ordinary type of scutcher.

Thos. Leyland Machinery Co., Readville, Mass.

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Mechanical Guider

A mechanical guider developed is operated by a selvage finger moving with the fabric. The parts which come in contact with the cloth are chromium-plated, the selvage finger being made of stainless steel, highly polished. All parts subject to wear are made from chrome nickel steel, heat treated.

Guider Specialty Co., Westville Station, New Haven, Conn.

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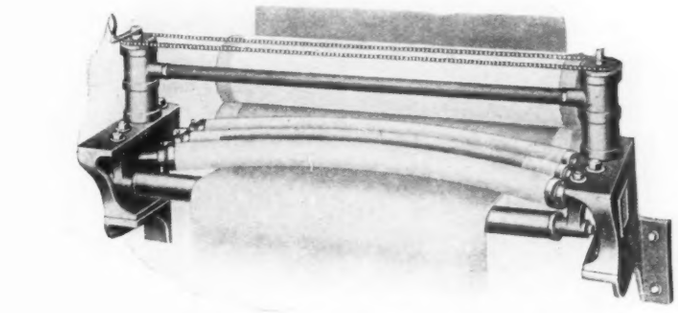
General Purpose Photoelectric Relay

In an improved general purpose photoelectric relay, the adjustment knob, formerly located at one side of the tube socket, has been placed in a prominent position on the bracket that supports the tube, affording easy access to the knob. A single-pole double-throw snap switch now eliminates any wiring changes formerly necessary to cause the relay to function upon admittance of light when it was wired to operate upon the exclusion of light. The adjustment screw of the sensitive relay is now accessible in a horizontal position. The relay uses the Pliotron tube, especially designed for industrial purposes, the improved phototube housing with a cast-aluminum base and drawn aluminum hood.

General Electric Co., Schenectady, N. Y.



Rubber covered expander and scroll roll

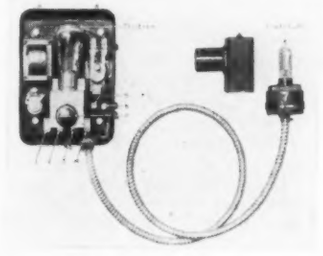


Photo-electric relay

Stainless Clad Steel

USS Plykrome is a composite steel in which a stainless steel veneer is welded to a carbon steel backing, and is adaptable for any application where corrosion resistance is required on one side only. It is distinguished by the use of a special metallic bond sheet between the stainless steel veneer and the carbon steel backing, preventing the migration of carbon into the corrosion resistant surface; it serves also to compensate for the different physical qualities of the two steels to prevent warping, splitting, cracking or peeling. Plykrome may be welded, drawn, spun and formed with the same equipment used in handling ordinary deep drawing steels.

Illinois Steel Co., Chicago, Ill.

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Color Matching Units

A line of color matching units involving a blue glass plate which aids in color composition is designed to duplicate north sky daylight, for use in color discrimination and comparison.

Color matcher

Each lamp consists of a chased cast base and a housing; the housings are designed with an interior reflector for control and distribution of light; they

are ventilated to overcome excessive heat.

Ivanhoe Division, The Miller Co., Cleveland, Ohio.

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Automatic Tenter Clip

Among the refinements listed in a new automatic tenter clip are: a patented gate latch for stopping grooving of the plates and dulling the insert blade by holding the swinging gate away from the plate during the return

Tenter clip

travel of the chain to the entering end of the machine; a quick drop controller, which permits the gate to catch and hold the fabric quickly and securely; a hardened steel bushing on the male end of the link; equipping the connecting pin or rivet on the female end with Alemite grease fittings; and a swivel insert on the gate to permit removal of insert for repairs or replacements without removing the chains from the machine.

The Textile Finishing Machinery Co., Providence, R. I.

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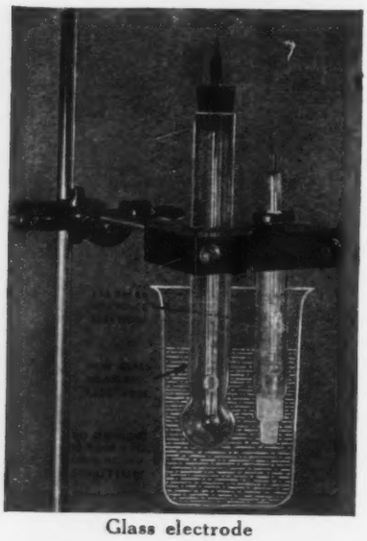
New Glass Electrode

A new glass electrode is designed for use in oxidizing, reducing and unbuffered solutions. It is pointed out that it enlarges the list of solutions whose pH can be measured with an ordinary potentiometer. The glass electrode has a range of 0 to 12.5 pH, and a limit of



Glass electrode

error of 0.1 pH. No quinhydrone or other chemical is added to the sample of solution to be measured. A complete equipment for pH determinations using the glass measuring electrode includes a calomel reference electrode, a potentiometer, a reflecting galvanometer and reading device.

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.

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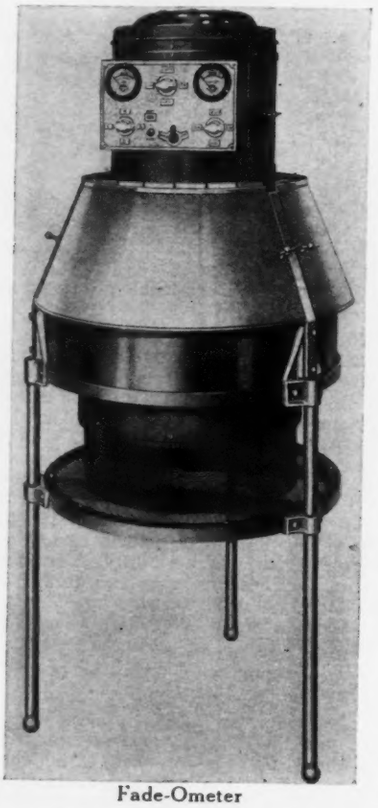
Improved Fade-Ometer

In a new model of the Fade-Ometer, a device for duplicating sunlight and foretelling the amount of fading of dyed textiles, overheating of specimens is eliminated, it is explained; specimens are exposed in a humid atmosphere, with a relative humidity of 52 to 60 per cent at the specimens; a 1/20-hp motor, driving the fan, is controlled



Fade-Ometer

by a DeKhotinsky thermo regulator, to maintain the temperature by automatically starting and stopping the fan between 98 and 105 degrees F. For high testing temperatures, the thermo regulator may be set to operate between 145 to 155 degrees F.

In this machine, a violet carbon arc plays the part of an artificial sun. Specimens to be tested are exposed in metal holders, suspended in a circle around the light. Ventilation is provided and the temperature kept within limits by means of an electric fan. Humidity is furnished by a water reservoir placed below the specimen chamber.

Atlas Electric Devices Co., 361 West Superior St., Chicago, Ill.

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Aromatic Chemicals

A line of aromatic chemicals, Tex-O-Dors, was developed for use in offsetting the rancid odor of finishing oils in all types of finished goods. They are generally employed in a proportion of 4 to 8 ounces per 450-pound barrel of concentrated finishing oil.

Givaudan-Delawanna, Inc., 80 Fifth Ave., New York City.

Conductivity Controller

The Micromax conductivity controller was designed for controlling the strength of dilute acid and dilute caustic process solutions, holding them constant within close limits. The ability of these solutions to conduct elec-

Conductivity controller

tricity varies with the strength of the solution. This conductivity is measured by a cell immersed in the solution. A recording controller furnishes a permanent record of the conductivity and operates a valve admitting enough chemical to retain the conductivity.

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.

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Ager Bearings

A unit of Ager bearings supports the roll in the ager, is of one-piece construction, and flanged to make it directly applicable to the wall of the ager. The ball bearings used are the standard self-aligning wide inner type with the self-locking collar. The units are made in pairs with one bearing fixed to stabilize the roll and the other free to float to compensate for thermal expansion of roll due to the temperature existing within the ager. Means have been provided to protect this unit from the ravages of acetic acid in the aging process; also special packings are used to retain the fumes within the ager and similar packings to protect the ball bearing and exclude fumes which possibly may escape at the ager wall.

Fafnir Bearing Co., New Britain, Conn.

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Wet Processing Materials

Products for use in wet processing textiles have been developed for adjusting the pH value and controlling and sustaining the alkaline pressure by properly regulated hydrolysis. It is pointed out that, harnessed to this alkaline pressure there should be the power of emulsifying, saponifying, dispersing and holding in suspension the oils and grease, wax and other impurities in the fabric. Another important function is the quick and thorough wetting out of the fabric by reason of low surface and interfacial tension of the solution. New products recently developed for these purposes are Depurator XX for cotton, Neutralite XX for silk and wool, and Neutralite XB for heavily oiled rayon and wool.

Dirtkiller is the name of a new product for cleaning floors. It is explained that it contains no soap or abrasive, and removes oils and cleans down to the bare wood, and does not bleach but preserves the natural characteristics of the wood.

Detergent Products Corp., Atlanta, Ga.

Chemical and Sizing Materials

Rayon-Treating Products

Among other products developed for treating rayon crepe is Hydroxcene, a one-piece product with which nothing else is used; "Sulfoko" is a throwing oil for crepe to be used in conjunction with gelatines. "Hydroxy French Size" has been developed especially for acetate yarns, and "Slashing Compound 'S'" for viscose yarns, both being easily removable, it is explained. "Dresden Finish" is a one-bath waterproof used in waterproofing rayon crepe fabrics, piece silks and cotton thread. "Delustrants" for hosiery is another new product for the desired finish on hosiery, rayon and silk piece goods. "Staboleum" is a special type sulphonated oil to be used in conjunction with mineral acids without breaking up, and, when used in hard water with calcium, magnesium, etc., has the property of holding these in suspension instead of combining with them, it is explained.

Kali Mfg. Co., 1410 N. Front St., Philadelphia, Pa.

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Identification Agent

A means for the identification of various textile fibers through the use of a reagent which gives a specific color to each kind of fiber, is known as "Neocarmin W". It is in solution form, ready for use, and the sample is immersed in it for 3 to 5 minutes, and the sample is rinsed and passed quickly through water containing a trace of ammonia; upon drying after another rinsing it immediately presents the characteristic color produced by the reagent by which it can be readily identified. In the case of a fabric containing two or more types of yarn, each type assumes its own individual color for identification.

Wm. F. Bengel, c/o Kali Mfg. Co., 1410 N. Front St., Philadelphia, Pa.

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New Finishing Compounds

Among additions to a line of processing and finishing compounds are the following: Aliphatic ester sulphates for penetrating and wetting out in the dye bath; for kier boiling, throwing, vat dyes, finishing and printing. Also, glyceryl sulphates, including Stearo, for softening and finishing cotton, rayon, silks, etc.; Oleo, for finishing, softening and lubricating silks, rayons, or mixed fabrics, and for dyeing, finishing, kier boiling, boiling-off, hosiery, silk throwing and as an emulsion base; and Palmito, for scouring wool, and boiling-off cotton and rayons.

Leucothol is a stripping agent for removing acid and direct colors from cotton, rayon, silk, mixed fabrics, worsted, hosiery, knit goods and yarns. Napthalene sulphonic acid ester is a penetrant combining the action of a dispersing agent, emulsifier and colloidal film breaker, for cotton, wool, rayon, acetate rayon, jute, hemp, felts and leathers, having various uses for each; it works in neutral, acid or alkaline solution, for level shades in slow or fast exhausting colors, vat dyes, machine dyeing, jig dyeing or sulphur dyes. A sufficient bleach on cottons can be obtained, it is stated, without kier boiling, where boiling is likely to produce spots or damage the fiber.

Onyx Oil & Chemical Co., Jersey City, N. J.

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Research Developments

Research work has been applied to the adaptation of the fatty alcohol sulphates known as the Gardinols to dyeing, bleaching and finishing. These are new chemical compounds which, like soap, are powerful wetting, detergent, and emulsifying agents, which maintain their wetting and detergent power in the presence of weak or strong acids and in solutions of calcium, magnesium (water hardness) salts and other metal compounds; they permit the use of hard water and reduce water consumption in rinsing. They may, it is pointed out, be included in the acid bichromating bath, consolidating and shortening the sequence of soaping operations.

The Procter & Gamble Co., Cincinnati, Ohio.

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Textile Soap

Further development of the application of soap to cotton processing is reported, through the use of low titer sodium oleate products, known as Olate flakes, in kier boiling, for goods of better color and dyeing properties. These products, it is brought out, blend with pine oil and make a satisfactory base for a pine oil kier compound. For soaping, a high order of scouring and developing action, and unusual rinsing speed are claimed.

The Procter & Gamble Co., Cincinnati, Ohio.

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New Finishing Products

A clean and transparent vegetable gum, Supertex is prepared by a new process and designed to give cleaner white, brighter colors and better penetration, it is explained; when added to dextrine and starch paste, the gum makes a smooth flowing paste. Other new products are:

A soluble rayon oil for preparing rayon for the throwster; a coning oil applied directly to rayon in the coning operation by means of a wick or roller; a soluble oil built upon a pure sulphonated olive oil base for use on yarns for the full-fashioned trade; a product on a pure sulphonated olive base for use in the Rochester silk impregnator; an emulsifiable oil developed to replace soap and raw oil for soaking yarns for broad crepe silk; an assistant to the laundry trade as an emulsifier of soil; a new type of sulphonated olive oil for finishing.

Jacques Wolf & Co., Passaic, N. J.

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New Soaps

A line of neutral boiled soaps identified as "Brosco Dri-Sopes" is made in small, solid compact particles which disperse and sink with slight agitation when thrown in water at 140 degrees F.; the particles float separately and dissolve rapidly, it is pointed out. They pour like dry sand for weighing or measuring, it is explained, and when soap must be strengthened with soda ash or alkali, as in fulling, may be added to the machine or bath without previous dissolving.

Scholler Bros., Inc., Amber and Westmoreland Sts., Philadelphia, Pa.

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Sulphonated Oils and Products

New equipment has been developed with which the degree of sulphonation is regulated to produce oils of different characteristics. Silk soaking oils in the olive type—one in the neatsfoot type—of various grades are produced according to the method of application. One type for the still bath method, requiring larger globules when dispersed; others for machines where the concentration of oil is so much greater.

An emulsifier for cotton, for use with all of the waxes, an odorless, anhydrous soluble paraffine wax, and an odorless, stainless mineral oil soluble in water, used in cotton finishing baths, are other developments.

Quaker Chemical Products Corp., Conshohocken, Pa.

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Desizing and Boiling Compounds

A new product, Diazonol A.C., was developed for de-sizing and boiling off cotton and rayon piece goods in one operation, reducing the time required by former methods. The compound is applicable for use in the kier, jig or oval reel machine. Aquarol is a product to make hosiery "splash-proof". It is applied after dyeing, for a ten minute run at room temperature. It produces greater yarn elasticity, it is pointed out, increasing the length of the finished hose; and ultimate washings in a mild soap solution tend to prolong the water repellent quality. Delustrol is a compound for producing simply and quickly, at room temperature, a dull finish on rayons, hosiery and combinations of rayon and woolen piece goods. Stripper T.S. is designed for decolorizing more particularly those materials affected by high temperatures and on which high temperatures must be maintained. It is offered especially for cotton prints and piece goods, and also for hosiery and other materials.

Arkansas Co., Inc., 233 Broadway, New York City.

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Sodium Metasilicate

Sodium metasilicate, known to science for nearly a century, has recently been made available in a satisfactory free flowing form, and, as Metso, is developed for use in textile cleaning and washing. As a kier assistant, it is pointed out, it was tried with good effect; and it was found that the "resists in dyeing are greatly reduced. Some of the other properties of metasilicate cited are a quick wetting ability, free rinsing characteristic and greater safety with fabrics.

Philadelphia Quartz Co., 125 S. Third St., Philadelphia, Pa.

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Hydrosulphite Solution

During the past two years the application of hydrosulphite solutions, using liquid sulphur dioxide has been made to the dyeing of vat colors on both jigs and continuous ranges. A liquid stripper, Vaso, is especially designed for decolorizing silk, celanese, rayon and delicate fabrics.

A special hydrosulphite, Vasite, is

used in stripping shoddy and rags. Liquid sulphur dioxide is also used as an antichlor, with special control valves, indicating bottles, and cylinder handling products furnished. A zinc bearing zinc sulfate, containing 36.4 per cent zinc, is designed for the rayon industry particularly.

Virginia Smelting Co., West Norfolk, Va.

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"Gardinol" and "Brilliant Avirol" Products

A new line of textile assistants in the form of cleansing agents—soapless soaps—have been produced by sulfating the synthetic higher aliphatic alcohols, such as lauryl and oleyl alcohols, which are chemically related to the fatty acids derived from cocoanut and red oils. The products are offered as cleansing agents in processing textiles, and are available in the form of fine white powders easily soluble in water. The solutions are characterized by their great detergent and penetrating properties and by their resistance to acid, alkali and metallic salts.

It is pointed out that Gardinol will not develop unpleasant odors when used in processing; it cannot form insoluble lime soaps; it rinses easily and completely; it cannot turn rancid; it is neutral; cloth processed with Gardinol does not feel harsh or sticky; it will improve "handle"; it can be used in hard water, also in sea water, in which case it will act like soap in soft, fresh water.

The properties which it is pointed out make Gardinol products attractive for all kinds of scouring and cleansing may be summarized as follows:

1. Gardinol is a powerful emulsifying and cleansing agent. The several types produced are outstanding in this field. 2. They are not precipitated by hard water, as the lime salts are soluble and possess detergent properties. 3 Their highly valuable properties are maintained in both acid and alkaline baths. The solutions are neutral. 4. They are stable under ordinary atmospheric conditions and when applied to fibers do not deteriorate in storage. 5. They have no felting action on wool. 6. They increase the speed and improve the uniformity with which materials may be rinsed. 7. They act as retarding agents with exceptional leveling action in dyebaths.

An important feature stressed for Gardinol is its easy rinsibility. The excellent solubility of this product, even in cold water, accounts for the ease with which it may be rinsed out of fibers and fabrics. Much less time is required for complete rinsing of Gardinol, it is pointed out.

Brilliant Avirol is the trade name designating a new series of textile finishing agents for finishing rayon, silk and cotton fabrics. They may be used as dyeing and finishing assistants at the same time, and the finishes obtained do not deteriorate in storage and they last through several launderings. The various types of Brilliant Avirol are sulfated fatty alcohol products and belong to the same chemical family as Gardinol. In their physical properties, they have increased fatty and waxy characteristics and impart no stickiness to the fibers, it is explained. The manufacturers explain the properties of Brilliant Avirol products as follows:

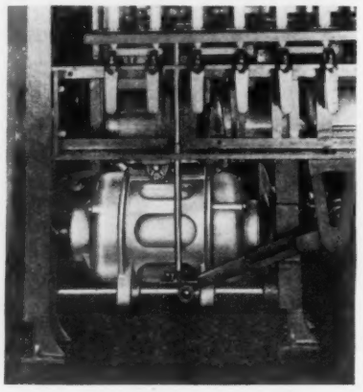
1. They offer a selection of a range of softening and lubricating values and their extreme stability assures uniform results under all processing conditions. 2. They are not precipitated by hard water, since no insoluble lime salts are formed. 3. They are stable in acid and alkaline solutions. No free fatty acids can be formed. 4. They resist atmospheric oxidation completely. No rancidity is developed, and finished materials may be stored for long periods without deterioration.

E. I. Du Pont De Nemours & Co., Inc., Wilmington, Delaware.

Power, Steam, Electricity Generation and Transmission

Textile Motor Developments

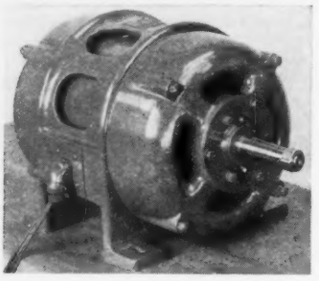
A screenless motor for cotton spinning, twisting and roving was developed for locations where lint and cotton flyings are prevalent. Through the use of glass-smooth insulation on windings, large ventilating passages and a high velocity air stream produced by special internal blowers, lint and flyings are blown right through the passages and out the vents, preventing clogging and resulting in lower operating temperatures. The motors are built for the usual outboard mounting and also in flange type mountings to go under frames. Another motor is of the same type except that it has an entirely special frame. This motor is swung under the frame, pivoted on a longitudinal rod, and so balanced with a tension spring to keep correct belt tension on the drum shaft. Either sleeve, ball or roller bearings are available in these motors.



Motor pivoted under frame

Flange mounted motors were designed for dryer equipment, using direct drive with an individual motor for the internal air-circulating fans of the dryer. To prevent heat from the dryer interior from overheating the motor, an air space is provided between the motor and the dryer wall. A special fan inside the motor draws cooling air through openings in the mounting flange into the air space, and then into the motor. Ball or roller bearings are used in this application. Unique design of the bearing housing permits unusually long shaft extensions.

A two-speed motor was designed to furnish a wider range of speeds on the Atwood 5B doubler twister. The equipment is of the dual winding type permitting two fixed speeds for each motor. Two sizes are in general use, one



Screenless textile motor

1½-hp., 900 r.p.m., 2½-hp., 1,200 r.p.m., and the other 1½-hp., 900 r.p.m., 3-hp., 1,800 r.p.m. The control is a simple interlocked switch which may easily be thrown to either high or low speed. Roller bearings are used, and a heavy stud is provided to carry the gear shield. The top end cover of the motor is completely enclosed to prevent the entrance of grease or other foreign substance.

Diehl Mfg. Co., Elizabethport, N. J.

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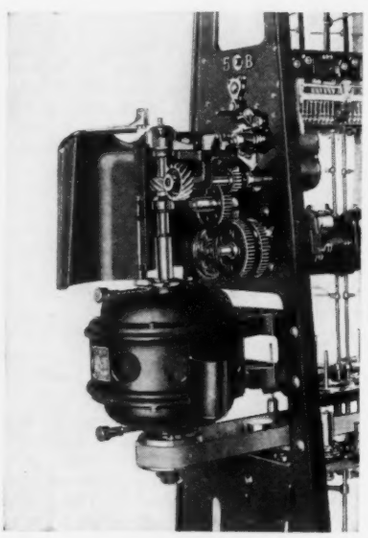

Two-speed motor on 5-B

New Motors

A line of totally enclosed, fan-cooled motors, of the squirrel cage induction type, has been developed. The motor is completely enclosed with ribbed cast-iron coil guards, and there are no rubbing seals or air gaps. This prevents the entrance of dust and dirt. The motors in most ratings have the size advantages of standard open-rated motors, plus full protection to the stator, rotor and other internal parts of the motor. The fan and fan housing are externally mounted on the front end of the motor, opposite the pulley end. Cooling air is drawn in at the pulley end, circulated around and over the rear coil guard, through the air passages between the field and frame, out over the coil guard on the front end and discharged into the air

through the fan and fan housing. The air passages may readily be cleaned if necessary. Radial fan blades are employed.

Century Electric Co., 1806 Pine St., St. Louis, Mo.

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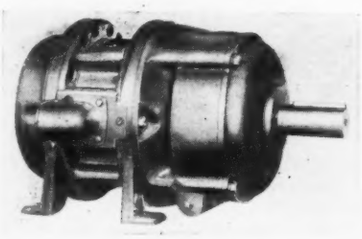
Gear Motors

The underlying principle of a line of gear motors is a normal speed motor in combination with a built-in, internal-helical planetary-gear speed reducer, to permit a wide choice of



Gearmotor

speeds. Full horsepower rating of the motor at the output shaft is a feature of this self-contained unit, it is pointed out, together with compact construction. The gear motor is available with special electrical characteristics. It is available in either flange or vertical mountings.

General Electric Co., Schenectady, N. Y.

:: :: ::

Splash Proof Motor

A line of splash-proof motors, from 1 to 30-hp, is for outdoor installations where protective covers or buildings are not available. The frame and end brackets are of refined grey iron castings. One way ventilation is provided by intake and outlet openings in the lower section of the end brackets. The bearing bracket is fitted to the frame by long contact sealed fit. Cartridge type grease lubricated ball bearings are used on all sizes.

Century Electric Co., 1806 Pine St., St. Louis, Mo.

:: :: ::

Textile Motors

A line of new "Seal-Clad" motors is especially designed for the textile industry. They are of the open type. Seal-Clad, requiring no screens or other devices for excluding lint or dust; unobstructed air passage and smooth surfaces on all parts in the air paths, it is

"Seal-Clad" motors

pointed out, permit free travel of lint or dust with the ventilating air. The stator windings are covered at both ends, providing a smooth hard surface. The integrally cast rotor fans are shaped to eliminate pockets for collection of fly. Discharge openings for the cooling air are large and smooth. Motor housings have unrestricted inlet openings with smooth interior surfaces free from irregularities. The new design provides also for cartridge type ball bearings or sleeve bearings of the waste packed or ring oiling type, long leads for flexible conduit, and straight or tapered shaft extension.

Allis-Chalmers Mfg. Co., Milwaukee, Wisconsin.

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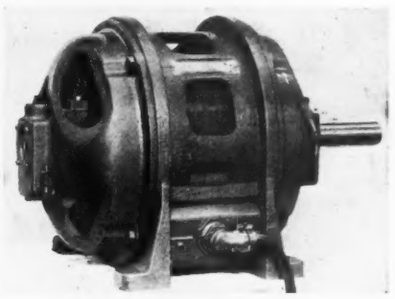
Lint-Proof Motors

A line of lint-proof motors have specially shaped rotor vanes for circulating air at the proper velocity to remove lint, stator windings with glass-smooth finish to prevent lint from



Lint-proof motor

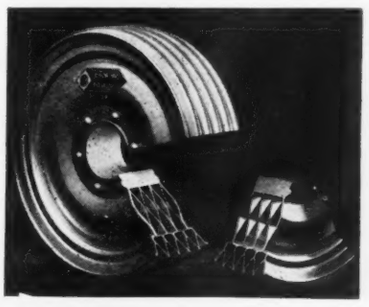
clinging to the windings, large air passages, and no screens to be cleaned, it is explained. Taped end-windings have been retained. Low maintenance bearings, Thermoguard protection, and uniform cooling are available when desired.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

:: :: ::

Increase in Texsteel Texrope Drive Ratings

An increase in the ratings of the line of Texrope V-belt drives, with one or both sheaves "Texsteel" has been made, making them available from ¼ to 15-hp. Texsteel sheaves are grid type



Texrope sheaves

construction, as illustrated, with accurately formed heavy-gauge steel sections electrically welded at web and rim. Outer rims are rolled for protection, appearance and strength. Integral bushings or solid bored hubs are standard. The sheaves have an attractive aluminum finish.

Allis-Chalmers Mfg. Co., Milwaukee, Wisconsin.

:: :: ::

New Condenser

In a new type of oil and water vapor condenser for eliminating condensed moisture and oil vapor from compressed air supply lines, a cooling coil is provided to reduce the temperature of the compressed air below the dew point, to insure complete condensation of the water and oil vapor before the air passes into the air supply lines. This cooling effect is produced by a small quantity of circulating water passing through the cooling coil.

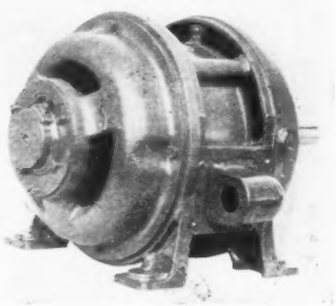
The condensed oil vapor and water collect in a reservoir provided in the base of the condenser and a gauge glass shows the amount collected. An arrow stenciled on the shell indicates the level at which the reservoir should be drained through the drain cock. These units are made in two sizes for a one-inch supply line and a two-inch supply line.

Spraco, Inc., 114 Central Street, Somerville, Mass.

:: :: ::

Screenless Open Textile Motor

A new screenless open motor has been designed to meet conditions of manufacturing in the textile industry where the atmosphere is heavily laden with floating particles of lint. It is explained that in the motor design no



Screenless textile motor

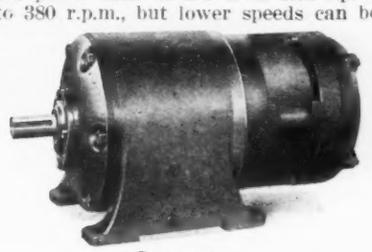
attempt was made to prevent lint from entering the motor; the air passages were so constructed that when lint enters it is immediately thrown out. This is made possible through: smooth glossy windings to which lint will not adhere; large, well-placed frame and shield openings; and dust and oil-tight bearing housings for eliminating lint-catching spots of oil or grease on the motor.

General Electric Company, Schenectady, N. Y.

:: :: ::

Gearmotors

A line of gearmotors for low speed drives provides a standard round frame type motor mounted directly on the gear reducer housing to form a compact, rigidly mounted unit. Helical gears are used. Standard speeds at the power take-off are from 3.02 r.p.m. to 380 r.p.m., but lower speeds can be



Gearmotor

provided. 6.08 r.p.m. is obtained with the use of a 1,750 r.p.m. motor. The gear drive bearings are ball or roller type. Lubrication is automatic and continuous. Standard units are arranged for floor mountings; units can be supplied for wall, ceiling or vertical mounting. Any desired type of motor may be supplied—standard squirrel-cage induction motor, wound-rotor

type, enclosed fan-cooled explosion-proof, or direct current. A line of higher-speeded gearmotors, with gear housing on motor frame, is available for speeds from 195 to 4,000 r.p.m.

Allis-Chalmers Mfg. Co., Milwaukee, Wisconsin.

:: :: ::

Direct Current Motors

In a new line of direct current motors, many variations, such as different degrees of enclosure for various applications, may be accomplished by using only a few different parts. New and different pulley end shields are used to afford maximum protection to the motor windings; drop-forged feet are welded to the motor frame; improved insulation is used for resistance to moisture and weak acids; properly proportioned stabilizing windings are utilized for stable operation — and speeds of all constant-speed motors can be increased 25 per cent by field control.

General Electric Company, Schenectady, N. Y.

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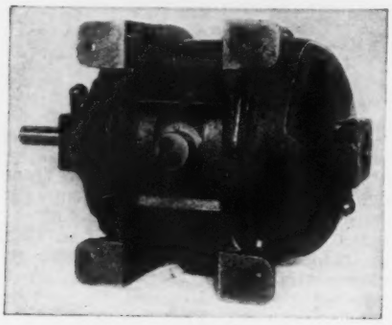
Thermoguard Motors

A built-in disc thermostat that functions before the temperature of the insulation reaches the danger point is the heart of the principle of "Thermo-



Motor with "Thermoguard"

guard motors". The combination of a motor with a built-in thermostat and a control device with a separate thermal overload relay is provided.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

:: :: ::

Roller Bearings

A line of industrial roller bearings, a modification of the railway type but built on the same fundamental principles of design, have been developed. The bearing consists of the conventional inner and outer rings and roller cage assembly, employing an alloy steel which has a high fatigue value. Rolls are of high carbon chrome steel and are hardened throughout. The cage itself is fabricated from specially form-rolled spacer bar stock with carburized and hardened end rings. Additional capacity is gained by increasing the roll length and by using two rows of rollers where necessary. Solid rolls only are used as the rollers are held in place and guided by spacer bars. Spacer bars are riveted to the end rings, while each roll is made in two parts to assist in preventing any possibility of skewing. The entire assembly is made with a fixed radial clearance to allow for the expansion which takes place when the inner ring is shrunk to the shaft. Among the textile applications which have been made of these roller bearings are water mangles, calenders, dye paddles, and starch mangles.

Fafnir Bearing Co., New Britain, Conn.

:: :: ::

Roller Chains

A line of roller chains has been designed primarily for drives where the chain travels at a relatively high speed or where it is necessary to transmit a

Roller chain

considerable amount of power through a small and compact unit. The rubbing parts of the chain are heat treated to give life. The side plates are blue-black, the rollers straw-colored, and the ends of the pins and rivets and the cotter pins are copper-plated. The chains are made of specially selected steels; dimensions and design conform to the standards of the A.S.M.E., S.A.E., and A.G.M.A.

Chain Belt Co., Milwaukee, Wis.

:: :: ::

Magnetic Switches

A line of full voltage starters for squirrel cage induction motors is complete for sizes up to 1200 h.p. Size 2 and size 3 magnetic switches are now rated as follows: Size 2, 15 hp., 220-volts, 25 hp., 450 and 550-volts; size 3: 25 hp., 220-volts, 50 hp., 440 or 550-volts. The switches include the new thermal overload relays; the relay heaters on the first four sizes are interchangeable in the mounting dimensions. The enclosing cases for the various switches are similar in appearance and all are available in cast-iron or boiler plate case for installation in dusty or damp places. These switches can be obtained in form suitable for oil immersion also.

The line of combination switches using a magnetic switch and a fusible or non-fusible motor circuit switch has been augmented by a device rated 25 hp., 220-volts, and 50 hp., 440/550 volts. These combination switches use the same thermal overload relays incorporated in the standard full voltage starters.

General Electric Co., Schenectady, N. Y.

:: :: ::

Inertaire Transformer Equipment

A new device extends Inertaire protection to small transformers and offers an improved method of supplying nitrogen to large inertaire power transformers. The new equipment con-

Inertaire equipment

sists of a 200-cubic foot nitrogen cylinder with a reducing valve which automatically meters the nitrogen to the gas space of the transformer, an alarm pressure gauge, a breathing regulator and a sampling valve—all housed in a welded sheet steel cabinet, interchangeable with the chemical type generator used on many transformers.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

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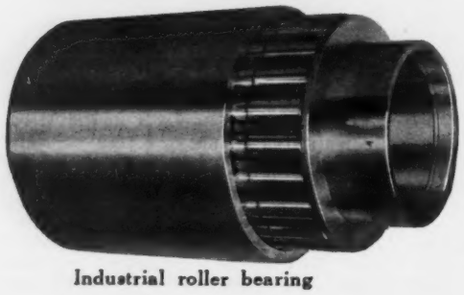
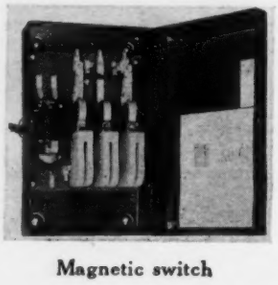
Single-Shaft, Two-Bearing Pumps

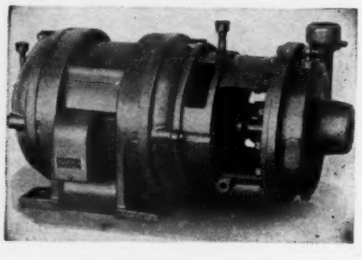
A line of Type SSU single-shaft, two-bearing pumps handles 30 to 500 gallons of liquor per minute; some sizes



Industrial roller bearing



Magnetic switch



Two-bearing pump

will pump against heads up to 350 feet. The units are scarcely larger than the motors alone, with high efficiencies. Enclosed fan-cooled or explosion-proof motors may be furnished. The pumps are bronze-fitted, but are available in all-bronze, all-iron, or of other special metal construction.

Allis-Chalmers Mfg. Co., Milwaukee, Wisconsin.

:: :: ::

Inverted Bucket Steam Traps

A new line of inverted bucket steam traps carries the name "Silvertop", for the silver finish on the top. In Model A, each trap has a deflector at the bottom of which the inverted bucket rests, when the trap is discharging. A small

Bucket steam trap

orifice in the center of the deflector prevents an excess of inflowing condensate from impinging on the bottom of the bucket, deflecting it toward the trap body to pass up through the trap on the outside of the inverted bucket; heavy sediment not in suspension is thus washed from the bottom of the trap and carried off with the discharging condensate. Model A is in six sizes for pressures up to 250 pounds. No. 11 is for removing condensate from small heating units, up to 125 pounds. It automatically discharges air and other non-condensable gases. If water enters at any temperature or pressure, it instantly opens and remains open until all the condensate has been removed. A high-pressure line is designed for super-heated steam at pressures over 250 pounds. The Silvertop air trap is for eliminating gas and air from liquid lines or vessels, working automatically above or below ground; designed for hot-water heating systems, hot and cold water supply lines, water filters, water softeners, etc.

The V. D. Anderson Co., Cleveland, Ohio.

:: :: ::

Automatic Stoker

An automatic underfeed screw stoker is made in a number of small sizes, for boiler capacities from 10 to 250 b.h.p. It is equipped with variable speed stoker drive. Automatic electric controls for operating at pre-determined boiler pressures, finished castings of heavy

Automatic stoker

grey iron, a chrome steel screw feed conveyor, the variable speed drive for regulating coal feed — with safety shearing pin for overload protection, are among the features.

Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

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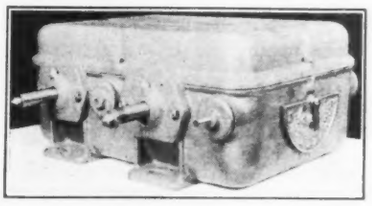
Variable Speed Transmission

In the Series 100 fully enclosed type variable transmission, all working parts are completely closed against the injurious effects of moisture, steam,



Variable speed transmission

acids, etc. Internal parts are lubricated through Alemite connections at ends of shafts without removing the cover or stopping the transmission.

Lewellen Mfg. Co., Columbus, Ind.

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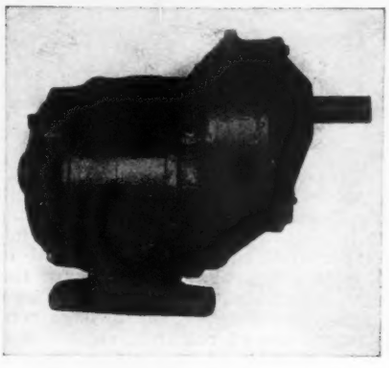
Gearmotors

As a mechanical means for reducing high motor speed to desired operating speeds, a line of gearmotors is designed as a compact unit; for drives from ½ to 1/5 hp. and for 1,550 to 232 r.p.m.;



Gearmotor

may be connected direct to the driven equipment or by V-belt, chain or flat belt. Fourteen reductions of ratios of 1.12:1 to 5.1 are available for each speed and horsepower. Helical gears, fully enclosed and running in a continuous oil bath, are used.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

:: :: ::

New Leather Belting

Processes which change the character of the leather used contribute to the production of Research belting leather, by modifying the fiber arrangement. It is fabricated by the tension cementing process, which applies the cement and does the pressing while the belt is under working tension. New controlled elasticity, it is pointed out, preserves the natural elasticity in leather, eliminating, practically, permanent stretch and absorbing shock loads; the belt has, it is explained, a new high friction surface for transmitting full rated load immediately, and greater flexibility and increased strength—the tension cementing process providing waterproof laps and plies. Research belt dressing is a liquid dressing for application to rubber, canvass, composition and leather belts, which, it is stated, has a high co-efficient of friction.

Graton & Knight Co., Worcester, Mass.

:: :: ::

Aluminum Paint

The pigment for a new aluminum paint is made by stamping pure aluminum into small, flat and thin metallic flakes. The paint is brushed or sprayed on iron, steel, wood, brick or concrete, and these tiny flakes overlap one another, in the manner of falling leaves, it is pointed out, producing a waterproof, non-rusting, durable surface.

The Brooks Oil Co., Cleveland, Ohio.

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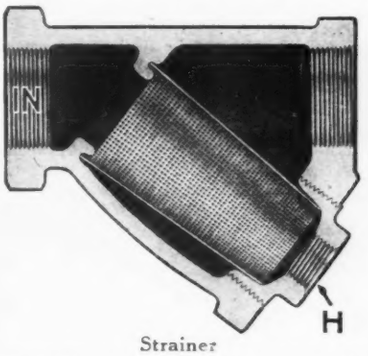
Fisher Developments

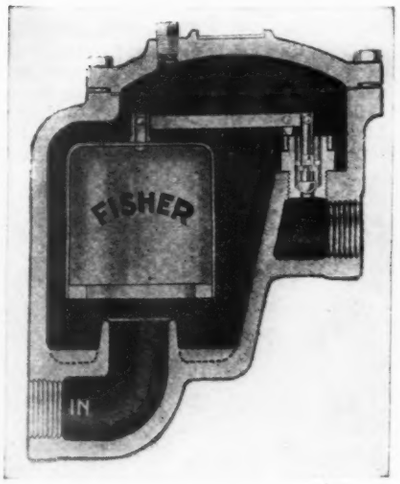
A Type 260Y strainer has been designed to remove dirt, scale, and other foreign matter, yet pass pipe line capacity on a low pressure loss. It is designed with a large free area through the renewable screen, offering



Strainer

practically no more resistance to the flow than a pipe bend and particularly constructed for use on pipe lines carrying water, air, gas, oil or steam. A self-cleaning feature permits cleaning the screen by opening the blow-off valve.

A new pressure regulator is furnished with all bronze body and bronze parts or with renewable stainless steel seat ring and inner valve. The single-seated inner valve is pressure balanced



Pressure regulator

by the piston and in turn is operated by an internal pilot which is of stainless steel. The internal pilot is oper-

ated by the diaphragm rod and valve stem.

Class ST Inverted Bucket Trap offers several improved features. The trap is constructed with a heavy compact semi-steel body, with vital parts of stainless steel; leverage is extra powerful, giving quick opening and positive closing, self-cleaning, non-air binding. The inner valve is positively guided to the valve seat. All parts are easily renewable without breaking the pipe line. Valve post adjustment is a new feature for properly setting the trap when replacing parts.

The Fisher Governor Co., Marshalltown, Iowa.

:: :: ::

"Daylight" Control of Lighting

With a photo-electric control of industrial lighting, savings are effected in kw. consumption, lamp replacement, etc., also, production is increased, and accidents reduced, it is pointed out. By having a photo tube directly gauge the intensity of daylight, the lights in the plant are automatically turned on during cloudy weather and later extinguished when daylight returns to normal intensity.

The photo-electric lighting control relay consists essentially of a photo-electric tube, an amplifier tube, and a sensitive telephone relay. This is located in a representative area of illumination, and operates circuit breakers that control the main lighting circuits.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

:: :: ::

Switchboard Instruments

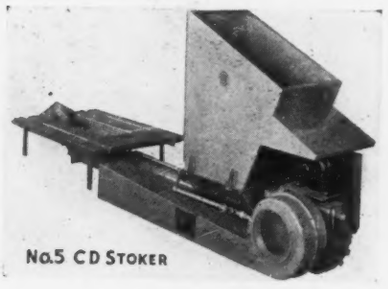
Rectangular flush mounted, and supplied with illumination, a line of switchboard instruments has been announced. The novel method of attaching the front cover eliminates all screws from the front plate. The occupied panel area is 4x4¼ inches. The mounting details permit mounting the instruments in close grouping on four-inch vertical line centers. The instruments are available in volts, amperes, watts, power factor, frequency, reactive volt amperes, and radio frequency amperes.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

:: :: ::

Automatic Coal Burner

Adaptation of the Iron Fireman to the burning of the different types of low volatile, high coking coal has been made. The ideal method of burning this type of coal, it is explained, is to convey it into the combustion zone with as little packing as possible, keeping



Automatic coal burner

it moving in uniform flow during its complete progress from the hopper to the combustion zone. This movement, it is pointed out, must be continuous in order to keep the coke formation of such size and in such condition that the air can penetrate it for combustion.

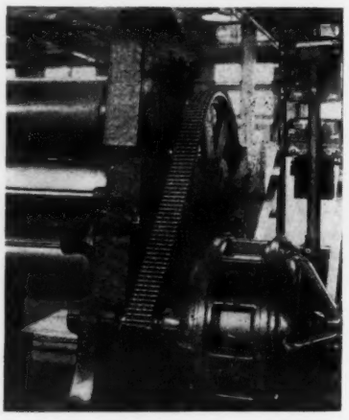
In order to accomplish this result, this model features a combination of worm conveyor for conveyance of coal in a steady flow from hopper to entrance of retort, and a reciprocating distributor for delivering this coal in a uniform stream up into the combustion zone.

Iron Fireman Mfg. Co., Cleveland, Ohio.

:: :: ::

Chain Improvements

Among recent improvements in roller chain design and production are press-fits for side plates on pins and bushings made more uniformly correct for all pitches of chain; exhaustive tests run under operating conditions to determine the relative merits of different specifications for different steels and their alloys; exacting specifications for heat-treating each part so as to give it physical properties best suited for the highest standard of performance. These improvements have come through constant efforts of research, engineering, metallurgical and production departments.



Roller chain

Diamond Chain and Manufacturing Co., Indianapolis, Ind.

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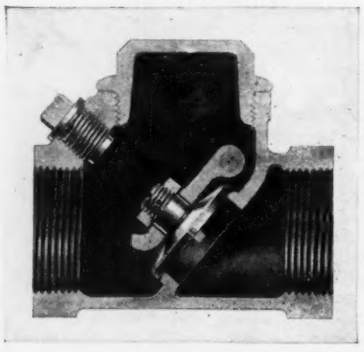
Regrinding Swing Check Valve

Simplified design for regrinding and inspection is a feature of a new regrinding bronze swing check valve. The



Swing check valve

disc is taken out for inspection by removing the side plugs from both sides of the body. When worn these plugs can be renewed. Regrinding may be done without removing the valve from the line. An opening is provided in the body through which a screw driver may be inserted into a slot in the end of the disc.

Jenkins Bros., 80 White St., New York City.

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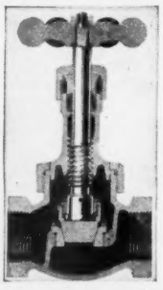
Improved Valve Seat Arrangement

In a new bronze re-grind-renew globe valve, radial-faced seating surface of the disc provides accurate seating and tight closure; the disc does not extend



New valve seating

beyond the seat contact surface, and repeated regrinding does not cut a shoulder or groove in the disc, it is pointed out; the diameter of the disc is scientifically correct in relation to the seat. For installations requiring throttling or where conditions are unusually severe, a plug-seated type is available for the same results as the bevel-seated type.

Jenkins Bros., 80 White St., New York City.

:: :: ::

Jointing Compound

A dry metallic powder, Permac jointing compound, has been developed to mix with boiled linseed oil into a stiff putty, to produce a permanent tight joint without packing or gaskets. It is for use on pipe-flange joints, steam cylinder heads, radiators, feed water heaters, etc., and as a thick paint for threaded joints. The putty is laid in a thin rope about one flange face, the bolts pulled to their limit, and the joint is immediately ready, it is explained.

Cling-Surface Co., 1032 Niagara St., Buffalo, N. Y.

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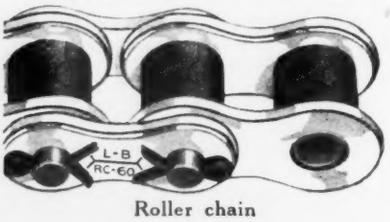
Roller Chain

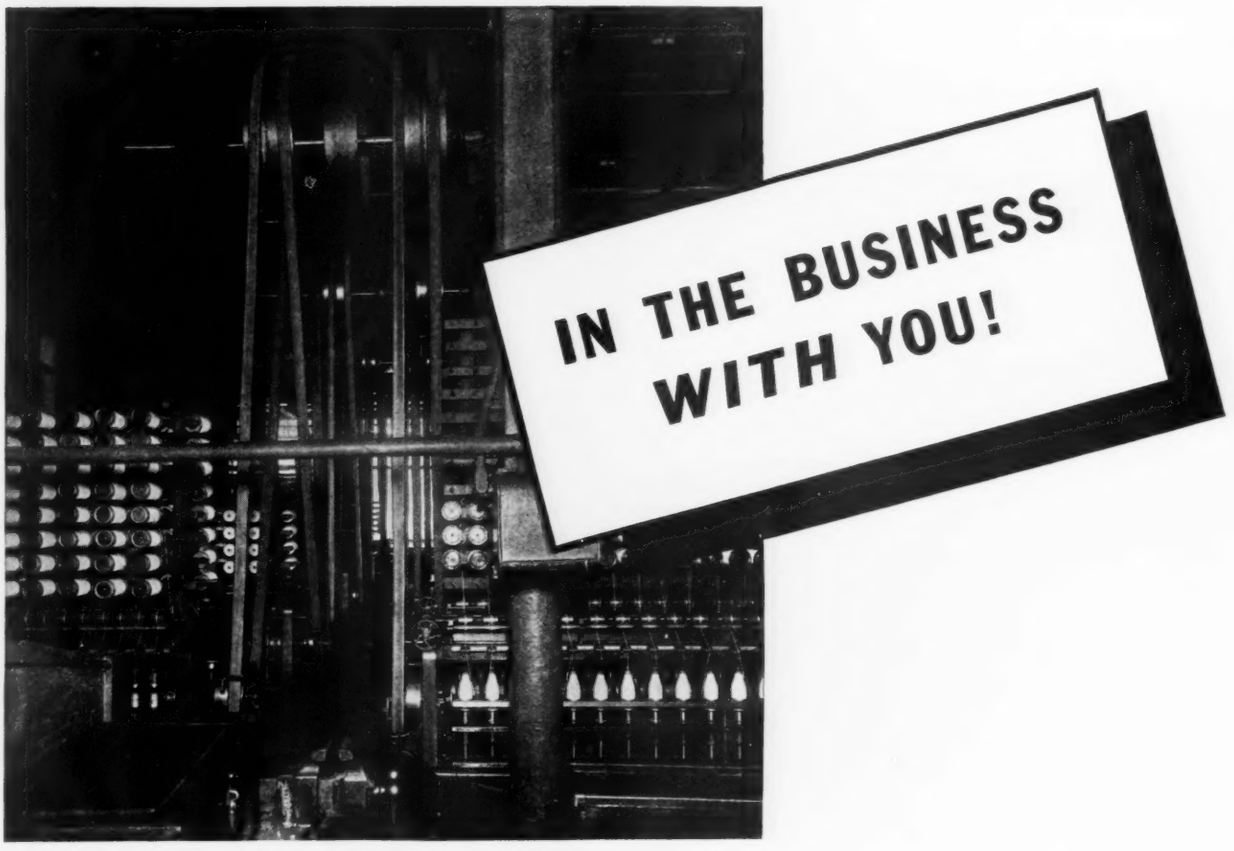
A finished-steel roller chain, known as Silverlink, is made in sizes from ⅜-inch to 2½-inch pitch, in single or mul-



Roller chain

tiple widths, available with wheels, for any horsepower. The sidebars of the chain are made of alloy rolled steel, heat-treated and especially treated to resist corrosion; the special treatment gives the appearance of silver. Nickel steel case-hardened pins, solid steel case-hardened bushings, alloy steel heat-treated rollers of the curled type, are other features.

Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.



THE hard, fast drives on the spinners, the hot, humid atmospheric conditions that must be maintained for the tensions, the even, uniform power that has to take care of the delicate threads—

These are primary operating conditions that Goodyear knows from experience—and Goodyear has built Goodyear Belts and Hose to serve them abler, longer, with a minimum of interruption and loss.

Therefore Goodyear supplies such exclusive products for the textile industry as Goodyear COMPASS (Cord) Endless Belt, Goodyear Transmission Belts such as THOR (Seamless), and the famous Goodyear Air Hose for clean-up purposes.

The G.T.M.—Goodyear Technical Man—specifies Goodyear products for your particular use and profit. See if he can save you money, as he has for many others.

Write to Goodyear, Akron, Ohio, or Los Angeles, California, or call your nearest Goodyear Mechanical Rubber Goods Distributor.

Goodyear is represented in the South by authorized Goodyear Mechanical Rubber Goods Distributors conveniently located with relation to your mills and able to supply promptly all Goodyear Mechanical Rubber Goods for the textile industry

THE GREATEST NAME IN RUBBER

GOODYEAR

TEXTILE BELTING

Fluid Meter Orifice

An adjustable orifice has been designed for fluid meter installations for accurate measurement over a wide capacity range. It consists of a flanged body with integral meter connections, and functions similarly to the commonly-used fixed type of segmental orifice. A micrometer adjusting screw permits setting the height of the gate segment within .001-inch. The maximum capacity of the meter may be changed as much as 40 to 1, and the change may be made within a few minutes without disrupting meter operation, or diverting the flow through a bypass line.

Bailey Meter Co., 1050 Ivanhoe Road, Cleveland, Ohio.

:: :: ::

Silent Chain Casing

A silent chain drive casing, oil-leak-proof, embodies a new lubricating principle. The lubrication is automatic through the action of a revolving disc, which dips into a separate compartment and lifts a little oil at a time;

Chain casing

guard plates and a gutter serve to collect and drain it, drop by drop, to the inside of the chain. The chain itself does not dip into the oil reservoir while in operation. Fabric washers inserted in steel hats are used to make the casing oil-leak-proof.

Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

:: :: ::

Flexible Coupling

A new flexible coupling of the gear type is known as the "Gearflex" Coupling. The double engagement type consists essentially of two externally geared hubs keyed to the two shafts to be connected and engaging an internally geared floating sleeve which encases the two hubs. With two sets of spur gears, one at each end of the floating sleeve, misalignment is compensated for by the sleeve assuming a neutral position between the two shafts. The large reservoir between the hubs and the floating sleeve carries a supply of lubricant. When the coupling rotates, centrifugal force throws the oil to the inner surface of the floating sleeve where it spreads between the gear teeth, entirely immersing the load-carrying surfaces in a bath of oil. The coupling is also made in a single engagement type which has only one externally geared hub in engagement with an internal gear in the sleeve, the other hub being solid and the sleeve bolted to it.

Farrel-Birmingham Co., 344 Vulcan St., Buffalo, N. Y.

:: :: ::

Air Operated Control

The principal feature of a new air-operated control system for controlling pressure, temperature, flow, etc., is a frictionless free floating air pilot. Due to the spherical lands employed by this pilot valve, its sensitivity is greatly increased. Only .004-inch travel of the pilot valve is necessary to obtain complete control drive travel. The construction of the valve is such as to permit the pilot valve stem to slide on past the neutral point, should the indicating or recording device move in that manner. This makes possible the addition of a pilot valve to an indicator or recorder without decreasing the usefulness of the instrument for indicating or recording throughout its entire range. The air pilot valve operates power cylinders or diaphragm valves, depending on the factor to be controlled.

Bailey Meter Co., 1050 Ivanhoe Road, Cleveland, Ohio.

:: :: ::

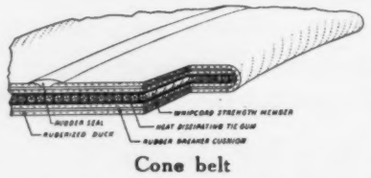
Rubber Products

A "compensated" belt is designed with a specially-treated pulley surface, for low tension operation, to run on small pulley sizes. The tendency for fasteners to work loose is eliminated by equalizing the tension of the outside duck ply with that of the inside duck ply, it is explained.

An endless-wound whipcord construction, with no inelastic stretch is of the continuous-endless-wound type, with a single layer cord section; it is for high speed, high tension drives requiring an endless belt.

Parock is a specially compounded rubber material used in a new pot eye. It takes a high polish, does not oxidize or deteriorate, and is unaffected by dyeing and bleaching solutions, it is pointed out. The pot eyes are made in sizes from 2½ to 15-inch diameter.

A whipcord cone belt has, as a strength member, a layer of closely-



Cone belt

spaced pre-treated whipcord, wound continuously, and completely imbedded in rubber. It is made in 16 standard sizes. Low inelastic stretch, high bending flexibility, and resistance to distortion and wear from shifters are among the claims.

Manhattan Rubber Mfg. Division, Raybestos-Manhattan, Inc., Passaic, N. J.

:: :: ::

Adapter Type Roller Bearing

A line of tapered roller bearings includes two Timken tapered roller bearings, assembled on a sleeve of ground steel tubing to form one unit and fitted into a finished cast iron hub, machined to fit into a housing adapted for use in either spherical ball and socket pillow block or unit mounting for building into duplicate machinery or loose pulley. The steel sleeve is slotted at each end and is held tight on the shaft by steel clamping collars. Lubricant is forced into the bearing races through Zerk fittings. Grease seals are placed in the flanges. The large ends of the rolls point inward or toward the center of the bearing. In this design the appliance comes filled with lubricant, with bearings properly and permanently set up.

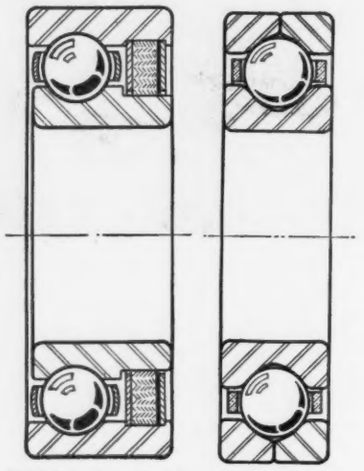
The Medart Co., Potomac and De-Kalb Sts., St. Louis, Mo.

:: :: ::

Felt Protected Ball Bearings

Additional sizes have been developed in the GreaSeal line of felt protected ball bearings. These are equipped with felts to form a labyrinth seal against recessed inner rings. The seal is removable for cleaning, inspection, etc., and is within the inner and outer rings. It is grease-packed.

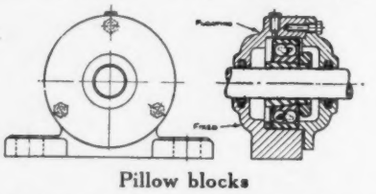
Another type developed is an angular contact bearing, no wider than a single



Ball bearing developments; duplex angular type on right . . .

row bearing, to carry radial and high thrust loads in either direction. The outer ring is made in two parts, and both inner and outer raceways are ground to a special curvature adapted to carry heavy end thrust; it employs a one-piece extruded bronze ball retainer which rides on the ground flanges of the inner ring.

Several lines of pillow blocks include one equipped with double row self-



Pillow blocks

aligning bearings with adapter sleeves to fit standard shafting in nominal inch and 1/16-inch diameters for 15/16-inch to 3½-inch. The pedestals have a capacity for a volume of lubricant with fittings for replenishing if needed. Felt seals are provided. For heavy duty work a line of roller bearing pedestals in two-bolt and four-bolt types is available.

Norma-Hoffman Bearings Corp., Stamford, Conn.

SINCE CHANGING OVER TO CORK, WE'VE INCREASED FRONT ROLL SPEEDS — AND ACTUALLY GET BETTER RUNNING WORK!
NO WONDER! CORK GRIPS BETTER THAN ANY OTHER ROLL COVERING MATERIAL!

HOW to increase production without sacrificing quality? Many a mill has answered that question by installing Armstrong's Seamless Cork Cots and speeding up the front rolls. It *works*—because cork grips better than any other roll covering and can handle higher roll speeds without loss of yarn quality.

For instance, one mill* spinning 13s filling was able to increase the speed from 190 to 210 R. P. M.—thanks to cork! The cork cots actually ran better at this high speed than other coverings at lower speeds. Again, a mill* spinning 10s on twenty-year-old frames had to sacrifice quality in order to speed up to 130 R. P. M. with old coverings—but actually found the running improved at *150 R. P. M.* when they shifted to cork!

How about cork's other qualities? Well, mill after mill reports savings in roll covering costs of 60% and better with Armstrong's Seamless Cork Cots. Quality is always equal or better. Lap-ups and clearer waste are greatly reduced—eyebrows practically eliminated.

The quickest way to prove any of these statements is with a trial installation in your own mill. Set up a few test frames on cork—and then watch what happens. We will gladly cooperate with you in making this test. Address Armstrong Cork & Insulation Company, Textile Division, 923 Arch St., Lancaster, Pa.

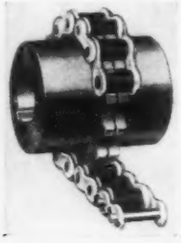
**Names will be sent gladly on request.*

Armstrong's SEAMLESS CORK COTS

For Spinning and Card Room Rolls

Flexible Coupling

A shaft coupling, flexible and of simple design, consists of two cut-tooth sprocket wheels (or coupling halves) and a piece of Silverlink roller chain



Flexible coupling

to connect them. A pin-and-cotter link arrangement is used for coupling or removing the chain. The coupling is available for use with either a stationary or revolving automatic-lubricating oil-retaining casing.

Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

:: :: ::

New Detachable Watthour Meter

A watthour meter element now available in a detachable meter for both outdoor and indoor use has provision for dead front testing, made

Detachable watthour meter

possible by means of a test jack, protecting both the meter tester and equipment. While testing, the test jack is placed between the meter and the outer base, the meter being plugged into the jack, which is plugged into the base.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

:: :: ::

Explosion Resisting Linestarter

A line of explosion resisting linestarters are designed for use around highly inflammable volatile liquids—such as in dye-plants. The starters consist of standard linestarter units mounted in heavy cast iron cabinets with wide flanges. The De-ion contactor and combination hand and automatic reset thermal overload relay are incorporated in these new starters.

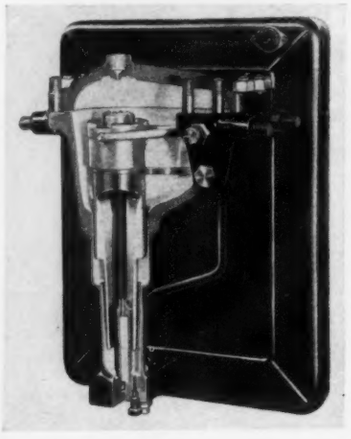
Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

:: :: ::

Explosion resisting starter

New Fluid Meters

Three general combinations are available in a new line of fluid meters for the measurement of steam, water, gas and other fluids: indicating and integrating; recording and integrating; and indicating, recording and integrating. The recording and integrating



Fluid meter flow mechanism

type, generally used for measuring process and service steam in the textile mill, shows the total amount of steam consumed and the characteristics of the load resulting from any one process or department. The flow mechanism in these meters is operated by the difference in pressure produced between the inlet side and outlet side of the orifice or other primary element inserted in the pipe line. The inlet or higher pressure is connected to the interior of a mercury-sealed Ledoux bell and the outlet or lower pressure is applied to the exterior of the bell, so that the bell moves up and down as a frictionless piston responding to changes in differential pressure. The bell moves the recording pen to correspond directly with changes in rate of flow.

Bailey Meter Co., 1050 Ivanhoe Road, Cleveland, Ohio.

:: :: ::

Opto-Matic Oilers

A small sized unit for fractional horsepower motors has been added to a line of visible automatic lubricators known as Opto-Matic oilers. The oil reservoir is 1¼ ounces for especial application on shafts up to ⅝-inch diameter, 1800 r.p.m.

This type of oiler is designed to provide automatically a continuous oil feed, with the supply visible. A micrometer adjustment permits a wide range of oil levels merely by turning the glass oil reservoir.

Trico Fuse Mfg. Co., Milwaukee, Wis.

Oiler for small motors . . .

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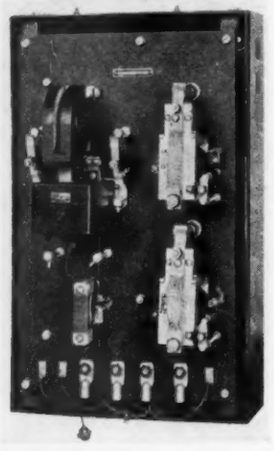
General Purpose Mill Type Starter

A line of general purpose mill type starters for constant speed direct current motors utilizes newly developed accelerating contactors designed to act in the capacity of a relay to provide



Mill type starter

time delay and also to short out the starting resistor by means of a contact finger. These starters are available in sizes from one horsepower up to 75 hp.

General Electric Co., Schenectady, N. Y.

:: :: ::

Oil-Resisting, Heat-Resisting Cable

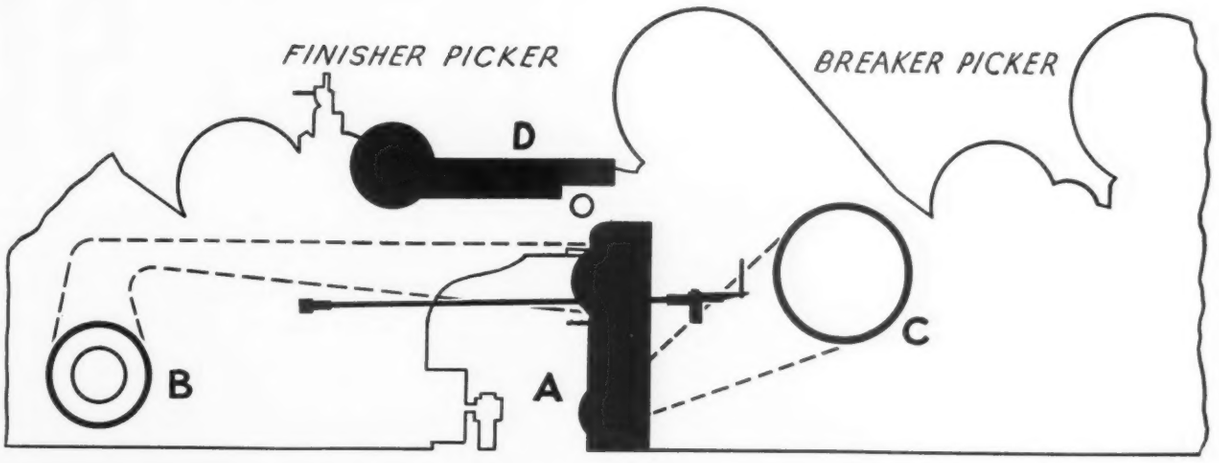
A new cable insulated with Glyptal-treated cloth and capable of resisting oil and withstanding high temperatures has been developed; it is characterized also by unusual flexibilty and toughness. The insulating material is known as Glyptal and is a synthetic resin, produced from phthalic anhydride and glycerine, which is unaffected by mineral oil. It maintains its original proerties over long periods of time, at elevated temperatures. Cable treated in this manner, it is pointed out, can be used for low and medium voltage leads, apparatus cable, transformer leads, or wherever an oil-resisting, heat-resisting cable is required.

General Electric Company, Schenectady, N. Y.

:: :: ::

Boiler Metal Treatment

An improved boiler metal treatment is described as an alkali solution for the elimination of scale in boilers and the prevention of pitting and corrosion. It is designed to treat the metal of the boiler to eliminate and prevent the adherence of scale rather than to treat the water to precipitate the scale-forming properties in feed water. It is explained that this treatment on entering the boiler has an affinity for the heated boiler metal, is drawn to the surface of the boiler metal where it forms a white coating over the adhering scale; it works its way through the crevices, creases and cracks of the scale, and, by expansion, forces the scale loose and



SACO-LOWELL MODEL B-5
Coordinated Picker Change-over

Change over to One-process Picking NOW — it costs remarkably little!

FOR the first time, a genuine one-process picker change-over is offered to textile mills. The Model B-5 was developed by Saco-Lowell engineers thoroughly familiar with picker design and principles and who understand the capacities and limitations of the various parts of the machine.

The Change-over consists of four simple parts. A, the Cone Panel Drive, shipped completely assembled. B, the Fan Drive which drives the top auxiliary cone in A. C, the Breaker Drive which coordinates the stopping and starting of both units and causes the feed rolls of both to operate identically. D, new Apron Rail. A summary of its features follows:

(1) Correct in principle and design—there are no parts to wear or break and cause inconveniences.

(2) Simple in construction and positive in operation.

(3) Easy to apply—the auxiliary cone panel drive is shipped completely assembled. None of the old calender gearing is used.

(4) Inexpensive—few parts and novel design permit it to be installed at low cost.

(5) The breaker and finisher are synchronized—to change the rate of production without changing the weight per yard of the lap, it is only necessary to change one feed pulley. No other change is required.

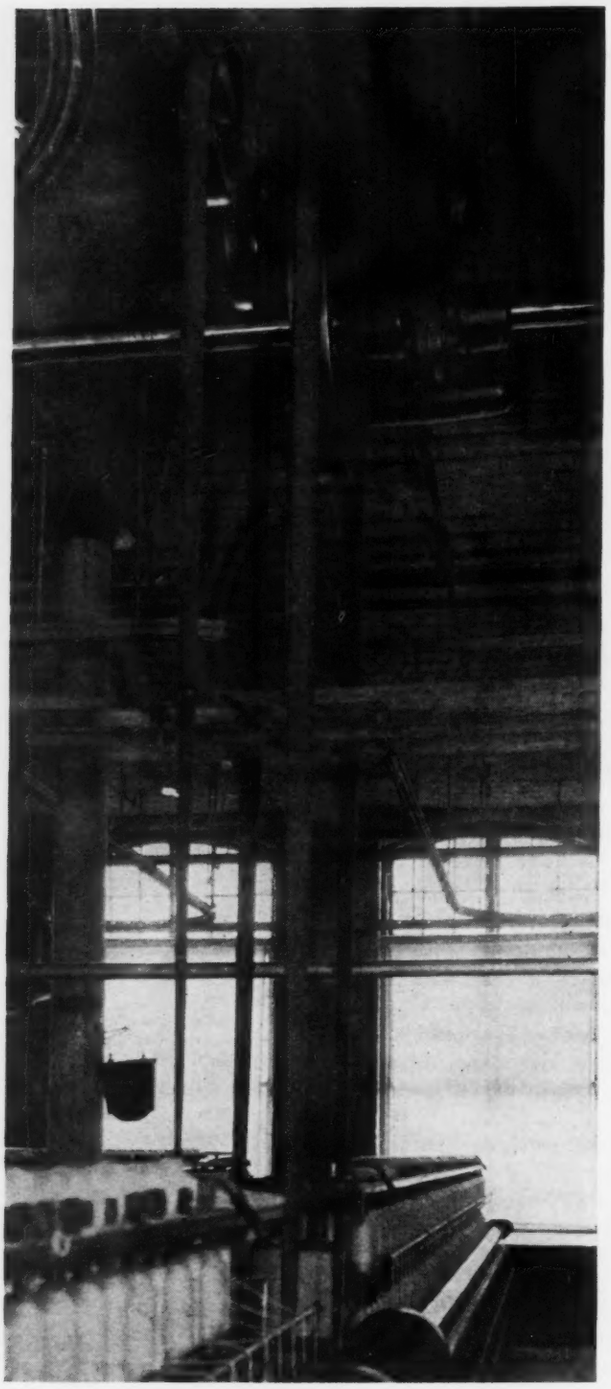
The B-5 produces REAL one-process picker results. You need not continue to run old 2- or 3-process picking when a small investment will give you the advantages of modern one-process operation.

SACO-LOWELL SHOPS

147 MILK STREET, BOSTON, MASSACHUSETTS

CHARLOTTE, N. C. GREENVILLE, S. C. ATLANTA, GA.

NOTHING IS SO



● *SACO-PETTEE SPINNING FRAME—3" GAUGE: A two frame line-shaft Bicycle drive. On this difficult drive, the belt shown in the picture has been in continuous service for three years.*

FOR a dozen years, the idea of rubber and fabric belts was "a pain in the neck" to cotton mill men. They knew it wasn't any good because they had tried it—and found it wanting. Notwithstanding the obvious merit of attempting to create a new and profitable market for the products of their own industry, nobody would be foolish enough to run up his costs merely to satisfy the patriotic whim of buying at home! Under the yoke of a common tradition that had prevailed for generations, the industry rocked along without benefit of change in belting practice.

But nothing is so constant as change—and the idea persisted. Profiting by their observations in other fields where rubber and fabric belts had made a brilliant success, forward-looking leaders insisted that the trouble lay, not so much in the characteristics of the product as in its application to their needs. And they opened their doors to the rubber manufacturer who was hardy enough to believe that his belting could be made to work under cotton mill operating conditions. Goodrich men accepted this opportunity . . . learned what it is that keeps rubber and fabric belts from shrinking on the job, and developed

NRA MEMBER U.S. WE DO OUR PART

Goodrich

CONSTANT as Change

a practical method for applying them successfully to cotton mill drives.

They also discovered that the cotton industry *really was different*—required belting that would permit positive control of elasticity and stretch, made from duck that was correctly balanced for the job, made from a rubber compound that would combine maximum flexibility and long life . . . belting that would not go slack under peak loads; nor build up destructive tensions that pull out fasteners, cause edges to fray against the shifters and burn out bearings. These aims were realized in Goodrich Highflex Jr.

When put on by the Goodrich method of controlled application, Highflex Jr. provides smoother, sweeter power transmission than you have ever known. It requires less constant attention day in and day out. It reduces operating charges. And in initial cost it represents a saving of 30% to 50% as compared with ordinary grades of belting in common use—a saving of from 60% to 80% as compared with the expensive "special" belts that used to be necessary for acceptable service on the more difficult drives. The B. F. Goodrich Rubber Company, Mechanical Rubber Goods Division, Akron, Ohio.

● *Highflex Jr. can be easily spliced in the mill—The picture illustrates one of the steps in the splicing operation. Applying tie gum to end of the splice.*

GOODRICH MECHANICAL RUBBER GOODS FOR THE TEXTILE INDUSTRY INCLUDE:

- *Transmission Belting*
- *Conveyor Belting*
- *Air, Water, Suction, Steam and Fire Hose*
- *Roll Coverings*
- *Packing . . . and*
- *A Complete Line of Miscellaneous Rubber Items*

ALL *products problems* IN RUBBER

Highflex Jr. Belting

then forms a white coating over the metal.

The Brooks Oil Company, Cleveland, Ohio.

:: :: ::

Diaphragm Valve

In a new diaphragm valve, friction is cut down, it is explained, by reducing the diameter of the spindle passing through the stuffing box. The spindle is perfectly guided by its upper (large diameter) portion which passes through two roller bearing assemblies, each consisting of four stainless steel rollers. Spring (single or hultiple) is enclosed as is the diaphragm; a positive indicator is furnished.

C. J. Tagliabue Mfg. Co., Park and Nostrand Aves., Brooklyn, N. Y.

:: :: ::

Innovation in Circuit Protection

A flashless device for circuit protection, to replace carbon circuit breakers or fuses, has nothing to be replaced or renewed, it is pointed out; it can be reclosed as quickly and easily as a switch. It has a time lag preventing unnecessary tripping on slight, momentary overloads. It opens a short circuit without flash or noise. The breaker is enclosed in a molded composition box; no live parts are exposed. A handle, like that of a switch, protrudes through the cover to provide means for manual operation and for reclosing the breaker after tripping.

Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

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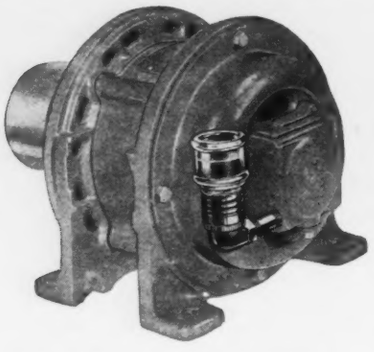
Automatic Oilers

A line of automatic oilers is in two types: Constant level oilers for electric motor bearings and other reservoir bearings with oil-ring, packing, or ball



Automatic oiler on motor

or roller bearings, to maintain oil at a determined level; and thermal oilers for use on sleeve bearings of the open type, operated by change in the bearing temperature. Both types have a visible oil supply.

Speedway Mfg. Co., 1834 South 52nd Ave., Cicero, Ill.

:: :: ::

Coating for Spindles, Etc.

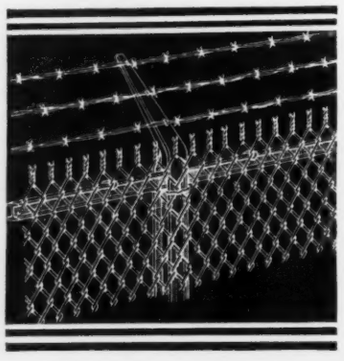
A transparent coating, Tropelite, has been applied in a number of finishing plants, bleacheries and dyehouses, for protecting spindles, bobbins, etc., from the defects of chemical substances, destructive to ordinary paints, etc. The product gives a hard, smooth, tough finish resistant to acids, alkalies, dyes and bleaching solutions, it is pointed out.

The Tropical Paint and Oil Co., Cleveland, Ohio.

General Factory and Shop Equipment

New Fence Construction

A new type of non-climbable chain link wire fence is constructed with the frame-work, including line posts, terminal posts, and top rail, of open section I beam members. Open section frame work, it is pointed out, obviates the



New fence construction

necessity for many bolts, bands, tension bars, etc., and prevents the internal accumulation of moisture. The illustration shows an open section fence post with an integral (one-piece) extension arm for supporting barbed wires. The fences are of copper bearing steel galvanized after fabrication.

The Stewart Iron Works Co., Cincinnati, Ohio.

:: :: ::

Centralized Lubrication System

A centralized system of pressure lubrication consists of a central station (reservoir-pump and gauge), a single main pipe line, and an automatic valve at each bearing, which automatically delivers to the bearing the correct amount of lubricant each time the system is operated. The capacity of the valve determines the amount of lubricant delivered. The valve operates on a positive, piston displacement principle, and the pressure built up in the supply line acts on the valve piston, forming a measured charge of lubricant into the bearings at high pressure. Each valve in the system operates independently.

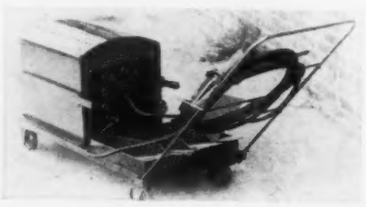
The Farval Corp., 3277 East Eightieth St., Cleveland, Ohio.

:: :: ::

Portable A-C Welder

A portable truck has recently been developed for transporting the "Velvet Arc" A-C welder. This alternating current welder, it is pointed out, has no moving parts; is equipped with a convenient outlet box permitting operation on 220, 440, or 550 volts, single-phase current without intermediate transformers. It contains a core-type air-cooled transformer for high efficiency. It welds in a horizontal, vertical or overhead position.

Southern Metal Products & Enameling Corp., Huntsville, Ala.



Truck for portable welder

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Compensating Swivel Caster

A combination of standard parts originally designed for use in conveying equipment such as roller conveyors and wheel casters is used in producing a ball-bearing swivel caster having wheels arranged to compensate

Swivel caster

for uneven floor surfaces. The caster is made in one size only; its base plate or mounting plate is 4-inch square, with four holes for ⅜-inch bolts. The two ball bearing self-compensating wheels are 4-inch in diameter; the overall height from floor to top of mounting plate is 6¼-inch. Each caster has continuous service capacity of 200 pounds, and intermittent service capacity of 450 pounds; loads of from 800 to 1,800 pounds may be moved on trucks equipped with them.

Mathews Conveyor Co., Ellwood City, Pa.

:: :: ::

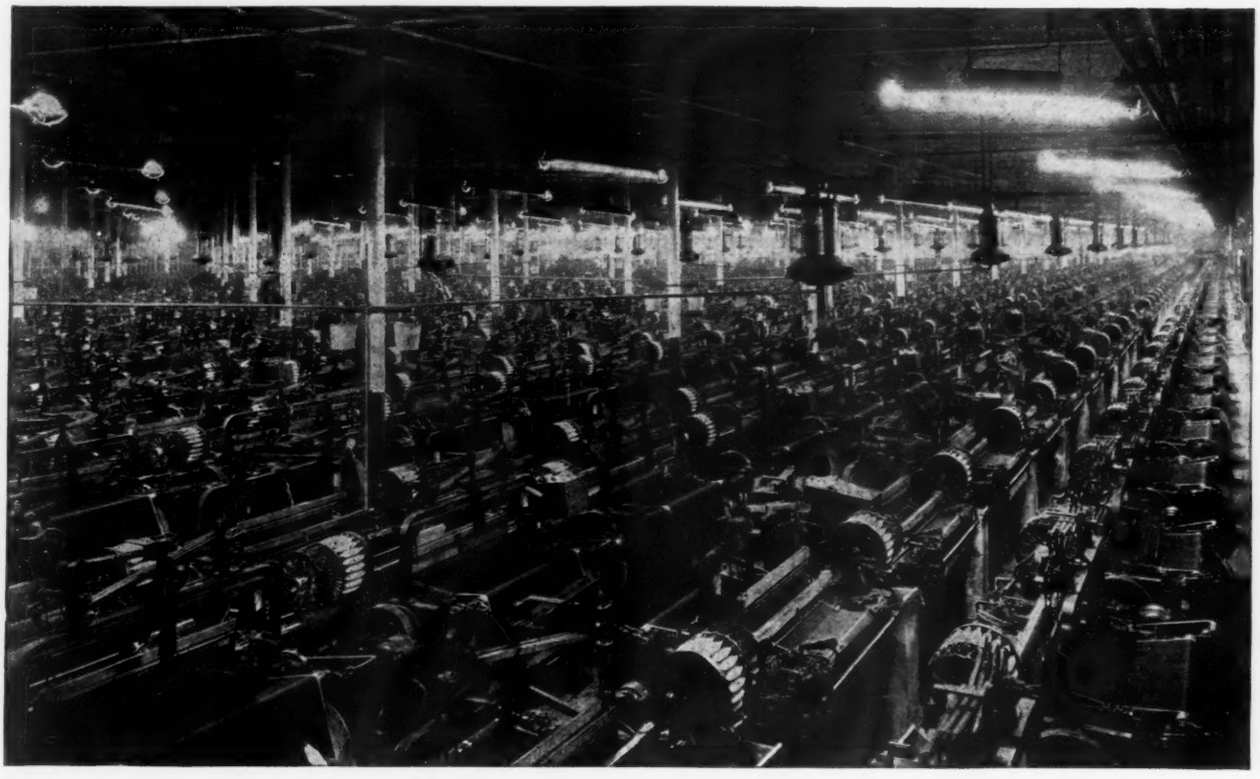
Tramrail System

For overhead materials handling, a tramrail incorporates one-piece rolled steel rail sections, and other features for safe and quick overhead transportation, including a Teerail and Beamrail to meet all span conditions. Erection is simplified, with a range in ca

T-rail for overhead

Only the best methods can stand the test of time in the

ERWIN COTTON MILLS



DURING the past twenty-five years many changes have been inaugurated in the Erwin Cotton Mills. These have been changes to speed up production, to improve quality, to reduce seconds, to cut production costs.

In the case of lighting there has been just one change. That change has been to increase the intensity of illumination from the Cooper Hewitt lighting system which this company has used for twenty-five years.

These years of experience have proved the unquestionable superiority of the mercury-vapor lamp. Today nearly one thousand Cooper Hewitt lamps are used in the weave rooms of these mills.

The experience of the Erwin Cotton Mills is similar to that of scores of outstanding concerns which have recognized the dollars and cents value of Cooper Hewitt lighting over a period of many years. We should be glad to supply you with concrete facts on savings and increased efficiency. General Electric Vapor Lamp Co., 853 Adams St., Hoboken, N. J.

GENERAL ELECTRIC
VAPOR LAMP COMPANY

561 Copr. 1933, General Electric Vapor Lamp Co.

QUALITY

WHY S-W MILL VILLAGE PAINT COSTS LESS IN THE LONG RUN:

(1) FEWER GALLONS NEEDED — because each gallon of Mill Village Paint covers more surface.

(2) LOWER LABOR COST—because of easier working qualities; a painter can cover more square feet per day.

(3) WEARS LONGER—due to **balanced** formula and **quality** ingredients. Repainting needed much less often—reducing **both material** and **labor** cost of paint, at one and the same time.

STANDARD PRODUCTS FOR

SCORES ANOTHER WIN!

Sherwin-Williams Mill Village Paint now proving its greater economy on Industrial Cotton Mill Village at Rock Hill, S. C.

DAY after day the mountain of proof grows bigger . . . the **higher** the **quality** of the paint—the **lower** the **cost** of paint. The photographs shown here tell the story—another big mill village completely painted with Sherwin-Williams Mill Village Paint—a high quality combination pigment paint made especially for protecting exposed surfaces of mills and cottages. Not only is Mill Village Paint made of carefully selected quality materials—its formula is **balanced** to give the utmost protection under the most trying of conditions. The use of S-W Mill Village Paint inevitably results in **lowered** painting cost.

Write The Sherwin - Williams Company at Cleveland, for information relative to keeping down the upkeep on your property. No obligation.

NRA MEMBER U.S. WE DO OUR PART

TEXTILE OFFICES: Philadelphia — Charlotte — Spartanburg — Atlanta — Nashville — Newark, N. J. — Boston, Mass.

SHERWIN-WILLIAMS

TEXTILE MILLS AND VILLAGES

pacity up to 6,000 pounds as another feature. The system is made entirely of steel.

The Osborn Mfg. Co., 5401 Hamilton Ave., Cleveland, Ohio.

:: :: ::

New Oiling Devices

A new design of bottle oiler is made up of a glass bottle with threaded neck, bronze base with integral sleeve type shank, and brass feed wire. A thick resilient cork washer seals the

Above, the Vosta; left, bottle oiler

joint between bottle and base. It is designed for lubrication of plain bearings; is automatic, feeding only when the shaft is in motion. The supply is always visible.

The "Vosta" oiler is for loose pulleys. As centrifugal force inverts the body of oil the feed is through a tube mounted in the base. Feeding is governed by the thermal principle, periodic expansion and contraction of air within the reservoir due to temperature changes.

The "Glaswick" oil cup consists of a steel cup with a shut-off cock in the shank, and a glass bottle which fits

The "Glaswick" oil cup

over the top of the cup. The bottle is held securely to the cup by means of a steel wire and clamp. The cock in the shank permits shutting off the flow when the bearings are idle, making it unnecessary to remove the wicks to stop the feed.

The Lunkenheimer Co., Cincinnati, Ohio.

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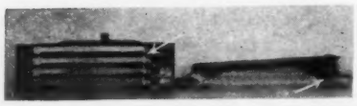
Bronze-Welding Extended

An all-purpose bronze welding rod broadens the field for bronze-welding in repairing and resurfacing machine parts. The strength of the weld metal obtained with this rod is about 60,000



Bronze welded shuttle box

pounds per square inch; and, it is pointed out, the bond will generally develop the full strength of the base metal. Local preheating is dispensed with; bronze welding is done at low temperature, and in any position.

Linde Air Products Co., 205 East 42nd St., New York City.

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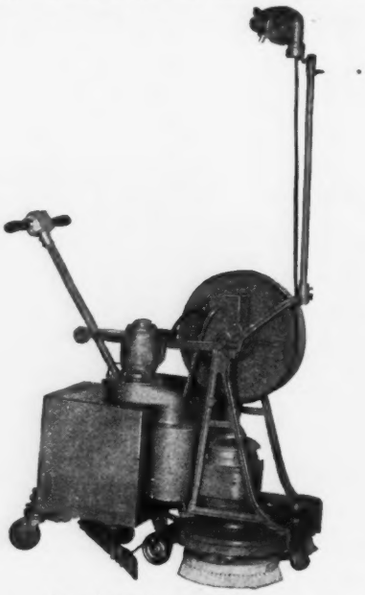
Combination Scrubber

A floor scrubbing and water pick-up machine automatically applies soap water solution to the floor ahead of



Combination scrubber

the brushes, and, by means of a squeegee and suction, the dirt and water are picked up from the floor. The machine covers a span, from side to side, of 22 inches.

Lincoln-Schlueter Floor Machinery Co., 213 W. Grand Ave., Chicago, Ill.

:: :: ::

Tachometer

A tachometer used in textile plants is designed to indicate the speed of a machine, its rate of production, and to maintain a predetermined rate of production. The instrument is of the centrifugal type, and is available to

Industrial tachometer

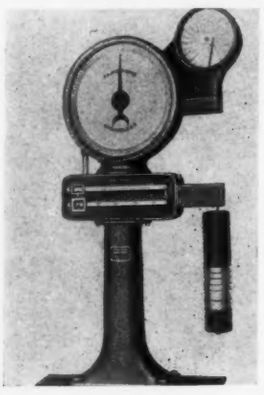
show the revolutions per minute or per hour, feet per minute or per hour, or yards per minute or per hour. It has been applied, among other places, on tenter frames, printing machines, slashers, extractors, and other types of variable speed machinery.

Jones Motrola Sales Co., 370 Gerard Ave., New York City.

:: :: ::

Charging Scales

A line of automatic charging scales has been developed of particular interest to industries requiring more positive means of weight control for process work, such as bleacheries and finishing plants. It provides actual records of the amount of chlorine charged into treated water for bleaching, along with the time of such actual charging of chlorine. The scales utilize a combination of a time recorder attached to the housing of the



Charging scale

scale dial, and the measurement or angular travel of known pendulum resistance, which is automatically indicated on the dial chart by means of a pointer, and also indicated by graphic pen reading on the time recorder chart. The time recorder chart is graduated in units of time and pounds. In addition, positive cut-off of a predetermined charge may be had by utilizing a solenoid operated valve on the pipe line, which is actuated by a mercury point contactor on the scale dial. This contactor is adjustable, permitting any range of predetermined setting. In this manner, automatic closing of the chlorine pipe line valve at any predetermined set charge is possible.

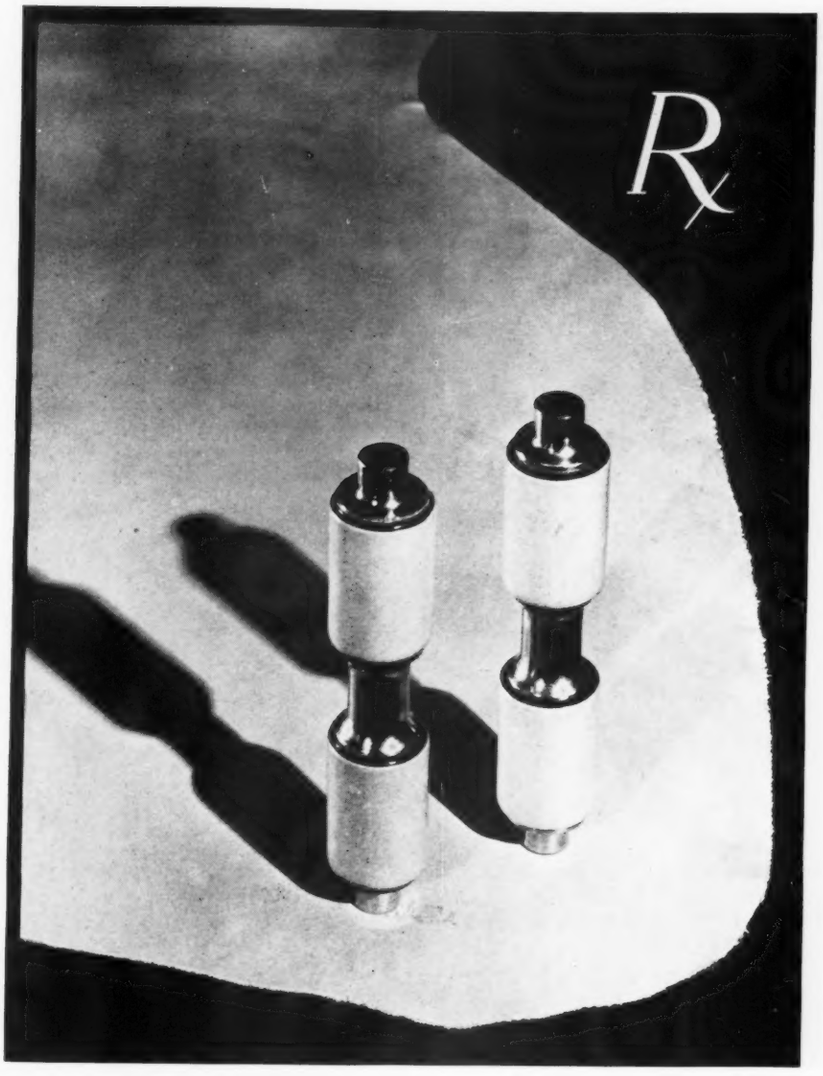
Fairbanks, Morse & Co., 9100 South Wabash Ave., Chicago, Ill.

:: :: ::

New Presses

A new up-stroke press has been designed for greater efficiency and lower cost of operation for baling cotton waste, raw cotton and similar material. It is built standard with 10-foot chamber below the floor and 5-foot chamber above, giving a total active filling chamber of 15-foot, sufficient to hold enough loose cotton or cotton waste to make a bale in one filling and one compression. The press is usually installed with the lower part of the press in a pit or resting on the basement floor below the first floor and material is fed into the press from the first floor into the chamber below or into the top of the press from the second floor, the finished bale delivering on the first floor level. The

SPINNA CALF
is being prescribed



BEING CERTAIN of the unusual merits of SPINNA CALF, leaders in the industry are definitely recommending it for long draft spinning.

A. C. LAWRENCE LEATHER CO.

Specialists in Textile Leathers

BOSTON, MASS. PEABODY, MASS. GREENVILLE, S. C.

There's a Universal Winder for Every Purpose

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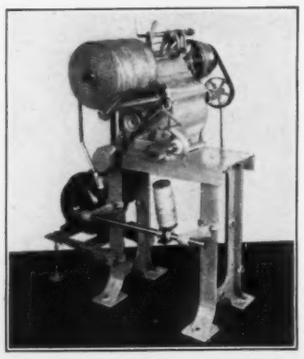

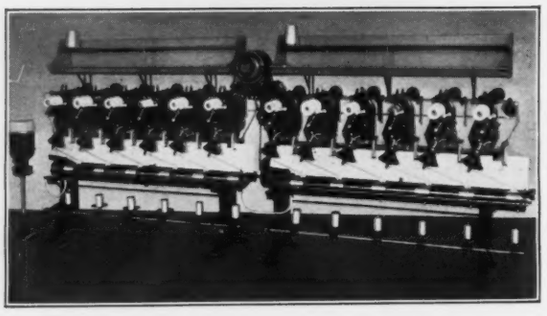

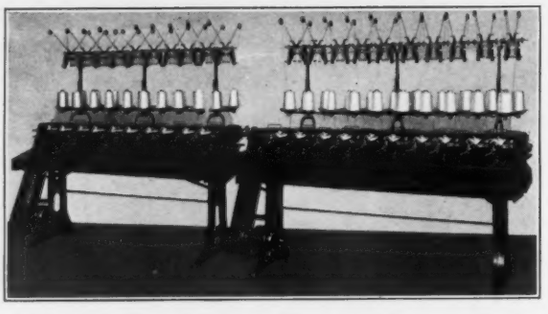

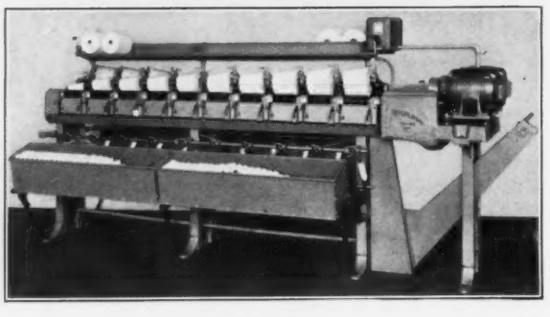

THE unfoldment of government plans under the National Industrial Recovery Act is rapidly clarifying the procedure, the limitations, and the privileges under which manufacturing activities in the future are to be conducted. Each obstacle, each difficulty encountered in the new order of things must be met by readjustment, realignment or revision of processes or personnel, or both.

It is hardly possible to reduce the terms of the textile codes to practical plans of operation without giving careful and thoughtful consideration to the process of winding. It has been demonstrated that wherever a transfer process is an advantage, UNIVERSAL Winding Machines will develop important economies and yield a noteworthy contribution to quality of product. Here, indeed, is a firm stepping stone toward complete compliance with your code provisions, on a profitable basis.

The Universal Winding Company is the largest manufacturer of textile winding equipment in the world. It is the only manufacturer that produces a complete line of winding machinery for transfer operations in mill practice and for preparing the finished product for market. In breadth of experience and all other facilities it is in the best position to serve you and to cooperate with you in the solution of problems brought about by the new era of business we are entering.

404

UNIVERSAL WINDING COMPANY

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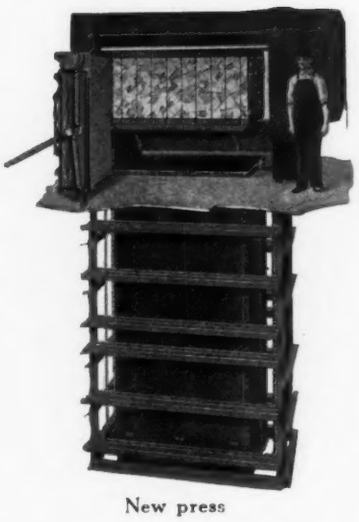


New press

presses are entirely self-contained, driven by direct connected motor. The pressure is applied up from below and the bale produced is the regular cotton size. The press is equipped with push button control for stop, start and reverse; automatic stops at both ends of the plunger travel; automatic safety overload relays; mechanism runs in oil or dust-tight housing, equipped with dust and spark-proof motor, and many other features.

Another recently developed press is a cloth press so designed that the trucks on which the cloth is piled when taken from the folders is run directly into the press while on the trucks, and, when the bale is completed, the trucks are pushed on through the other end of the press to the point of loading or storage. Thus it is not necessary to transfer the folded material from the trucks on which it is piled, and then pile it onto the trucks to be run to the point of destination again. The compressor plunger stops at any point in the plunger travel, at a predetermined pressure, and this permits making any size bale, eliminating the necessity of using blocks for smaller sized bales. These new presses are self-contained.

Economy Baler Co., Ann Arbor, Mich.

:: :: ::

Health Chair

A new model was added to the Do/More Health Chair line, a strong angle steel chair for general use. Several heights are available. The chief

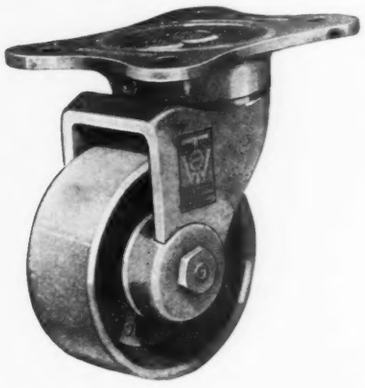
New model health chair . . . .

feature is the adjustable back rest, adjustable both vertically and laterally, and also adjustable in height. The seat and back are wood, and upholstered back rest is available.

Do/More Chair Company, Inc., Elkhart, Ind.

Truck Casters

In a new line of truck casters, the heavy duty type is made of heat treated steel forgings throughout, with raceways accurately machined, hard-



Truck caster

ened, ground and polished. They have pressure lubrication in raceways and axles, automotive type solid roller bearings, hardened axles and hub guards. They are called TonWate.

The "MidWate" medium duty truck caster is intended for medium duty work. It has smooth machine castings of high grade iron, fully adjustable raceway swivel, large diameter balls, and smooth hard raceways, pressure lubrication throughout, large hardened axles, and thread guards are available. Also canvas cushion or steel forged wheels are available. The casters are products of the Transue & Williams Steel Forging Corporation.

Divine Brothers Co., Utica, N. Y.

:: :: ::

Centrifugal Pump

In a pump for liquids requiring special alloys, the pump end is made of such alloys, while the support head is of standard cast-iron construction. impellers are of the semi-open nonclogging type, adjustable for capacity. An axial adjustment can be made while the pump is running.

The Deming Co., Salem, Ohio.

:: :: ::

Deep Well Turbine Pump

In a recently announced deep well turbine pump, water lubrication eliminates the possibility of oil contamination in the well or water supply. The

Deep well pump

water being pumped supplies the necessary lubrication below the surface. The pump is also fitted with semi-open type impeller which can be adjusted for capacity as well as head without removing the pump from the well, and reduces the possibility of sand lock in a new well.

The Deming Co., Salem, Ohio.

:: :: ::

New Ventilating Fan

For a new ventilating fan, to produce quiet operation, a silent floating base was designed; with flexible rubber insulators, so designed that there is no metal contact between the bolts holding down the base and fan, provide a damping effect. The rubber used in these insulators is "in shear."

Buffalo Forge Co., Buffalo, N. Y.

:: :: ::

Humiduct

The Humiduct was developed to provide a means of obtaining a high evaporative capacity per unit, togethre with good distribution under conditions not favorable to the operation of standard unit humidifiers, such as low ceiled rooms with obstructions, etc. The Humiduct is essentially a sheet

Humiduct

metal duct, with a Bahnson humidifier at one end. The humidifier fan forces air into the duct where it is mixed with the spray or mist produced by the humidifier. The air, saturated with moisture, is discharged into the room through a number of small outlets spaced at suitable intervals along the duct. It is explained that the discharged air carries with it spray in the form of a fine mist, which evaporates rapidly in contact with the air in the room. The equipment is adaptable for humidifying, ventilating, heating and cooling.

The Bahnson Co., Winston-Salem, N. C.

:: :: ::

Hard Chromium Alloys

A system of applying hard chromium alloys to machine parts, in a manner to give an even texture and without burning or scaling of the parts, has been developed and patented. This is used for rebuilding machine parts by welding on these hard alloys and re-shaping to original form; also for making new parts through the use of easily worked materials, and even castings, welding these hard alloys on only at the point where hardness and strength is required. It is especially applicable to such parts as cams, spindle ends, ratchet pawls, clip-off catches, etc., where special wear occurs. It is pointed out that a feature in the use of these alloys is that they are very slippery, and that with them, knitting machine cams, for example, can be operated twice as steep as with steel, thus two actions can be obtained in a given space where only one was previously possible. It is stated that one factor limiting the use of these welded-on alloys is that because of their extreme hardness they can only

be finished by grinding, and thus such parts as must have small holes through the hard surface or small corners which cannot be ground to form, cannot be re-built with this method; parts made of metal other than iron or steel usually cannot be rebuilt by this system.

Bassett Machine Co., Maryville, Tenn.

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Floor Scrubber-Absorber

A new development in floor maintenance equipment is a combination scrubber and absorber which covers about 100 lineal feet per minute and cleans a strip 21 inches wide and removes the dirty water and scrubbing

Scrubber-absorber

emulsion simultaneously. The machine is equipped with high sp ed twin disc brushes which scour loose the dirt. Immediately behind the brushes, a V-shaped squillgee draws the dirty emulsion to the center where a vacuum draws it into the lower tank. A cable of 100 feet on an automatic rewin ling reel, combined with generous tank capacity for both clean and dirty water, permits a wide radius of continuous operation at the rate of from 4,000 to 8,000 square feet per hour.

Finnell System, Inc., Elkhart, Ind.

:: :: ::

Precision Scales for Rayon

A line of precision scales for rayon production begins with models weighing to 1/10-gram accuracy for fluid tests in spinning rooms. For color determination, dye departments are provided with other types to insure formula precision to one grain. A third group proposes classification based on predetermined weight to proportionate strand and affords accuracy for denier determination. Fourth is a scale for weighing skeined yarn, designed with an elevated rack on the commodity platform which enables operators to place skeins on the scale and remove them without hand contact with the material. A feature of each type is a dial for visible weight control which reduces all weighing to simplified speed performance.

The Exact Weight Scale Company, Columbus, Ohio.

Universal Gear and Wheel Puller

A new universal gear and wheel puller consists of a heavy bracket with large pulling screw and three chains of any length, and will handle work at any distance from the end of the shaft, it is explained. The chains are double-ended with standard chain hooks for gripping around spoked wheels or large gears on one end, and special hooks that take a close grip for bushings, small gears, motor pulleys or in close quarters. There are two sizes: pulling capacities of 12,000 and 36,000 pounds.

Armstrong, Bray & Co., 308 Sheldon St., Chicago, Ill.

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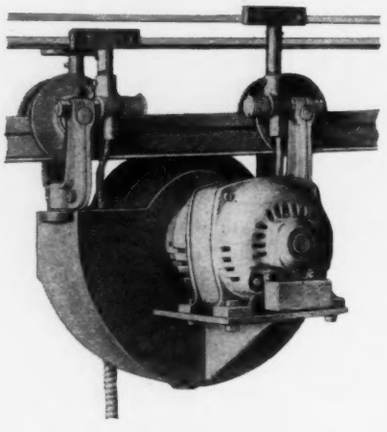
Power Operated Overhead Carrier

In a new motor driven air wheel carrier unit is found an addition to a line of overhead rail runway conveying equipment. Power is delivered to the carrier through an air wheel (pneu-



Overhead carrier

matic tire) contacting the bottom of the rail. A non-slipping grip results from the high co-efficient of friction between the rubber wheel and steel rail, it is pointed out. The unit is applicable to overhead carriers or cranes of all types, and brings the system under complete electric control. Controls permit the operator at the starting point to send the carrier with its load to any given station where it will stop automatically. A reverse button sends the unit back to its starting point. It operates around curves and through switches.

The American Mono-Rail Co., 13107 Athens Ave., Cleveland, Ohio.

:: :: ::

Decalorator

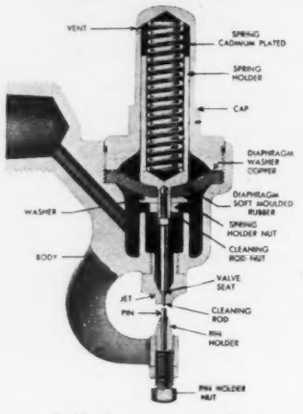
In the Ross decalorator, water to be cooled is introduced into an evaporator in the form of a fine spray. This spray presents sufficient water surface to cause practically instantaneous evaporation, or flashing, of a small quantity of the total water. The heat of vaporization of this small quantity is absorbed from the remaining large quantity, chilling it to the desired temperature. The equipment consists essentially of the evaporator in which a high vacuum is maintained by means of a primary steam ejector, a primary condenser to condense the flashed vapor, and the steam from the ejector; a secondary condenser group to eliminate the air present in the primary condenser, the chilled water pump, the condensate pump, and a means for make-up to replace the water vaporized in the evaporator. It is made in vertical and horizontal designs, covering a range in capacity from 24 to 4,800 B.t.u. per hour cooling capacity. It is particularly applied for air conditioning, drinking water systems, etc.

American Blower Corp., 6000 Russell St., Detroit, Mich.

:: :: ::

Self-Cleaning Humidifier Nozzle

A new self-cleaning humidifier nozzle is designed to clean the nozzle orifice by mechanical movement each time the water supply to the humidifier is shut off. Its installation requires no change in fittings, connections, etc. The cross-section view il-



Self-cleaning nozzle

lustrates the principle of operation and construction. With water pressure on, the pressure acts on the rubber diaphragm to reverse its natural position, thereby lifting the cleaning pin from the orifice channel. With water pressure relieved, the diaphragm assumes its natural position, forcing the cleaning pin into the orifice channel, and carrying accumulated dirt and foreign matter to the face of the orifice where it is picked up by water in transit upon resumption of pressure. A valve effect is created which operates to prevent dripping from nozzle of any free or spent water. The yoke carrying the impinging pin is arranged so that the pin is at all times exactly opposite the orifice.

American Moistening Co., 260 West Exchange St., Providence, R. I.

:: :: ::

Copper Print Rolls and Tubes

Everdur metal has been adapted recently in products for textile mills—including copper print rolls, and seamless copper tubes for dry cans. These seamless tubes are cold drawn through dies for strength and stiffness, and the methods used in their production, it is explained, are to assure accuracy in dimension, uniformity of temper, smoothness, roundness and straightness. Everdur is a metal composed principally of copper with small proportions of manganese and silicon added to improve corrosion resistance and physical properties; this alloy combining the strength of steel with high resistance to a wide range of corroding agents, it is explained. It is readily welded by commonly used methods.

The American Brass Company, Waterbury, Conn.

1933 Davison's Blue Book is Published

Davison Publishing Co., 50 Union Square, New York City, have published the July 1933 edition of Davison's Textile Blue Book, with which is merged Dockham's American Report and Directory. This year's directory lists 9,403 textile plants and 15,581 dealers. It covers cotton, woolen and worsted, silk, knitting, jute, linen and flax, Canadian, Mexican mills, dyers and finishers, mills with dyehouses, commission merchants, etc., in detail; with new textile maps showing towns in which there are textile plants.

A new feature is a classification of cotton mills according to product manufactured in each mill. This was made in co-operation with the Department of Commerce and other agencies.

Two editions are issued: The office size, with cloth and gold binding, price $7.50; and the handy edition, with all information except the classified directory of mills and the buyer's guide, price $5.00. A salesmen's directory, with flexible cover, is smaller, and includes full reports of all textile mills, dyers, finishers and bleachers, price $4.00.

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Carolina Dyeing & Winding, Inc.

A new corporation known as Carolina Dyeing & Winding, Inc., commenced active operations on September 1, succeeding the Carolina Dyeing & Winding Company, Inc. Paul Stevens ceases to be receiver for the old company as soon as details of obligations incurred in his name are completed. All trade creditors of the old company have been paid 100 per cent. Edwin F. James is president of the new corporation, and Paul Stevens treasurer.

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Directory of Laboratories

The Textile Foundation, Commerce Building, Washington, D. C., have recently issued a "Directory of Commercial Textile Testing Laboratories." It lists separately commercial laboratories available for textile testing problems of various kinds, and laboratories in educational institutions which includes those which have indicated willingness to test textiles on a pay basis or some valid equivalent. Copies of the directory are available upon request to the Foundation.

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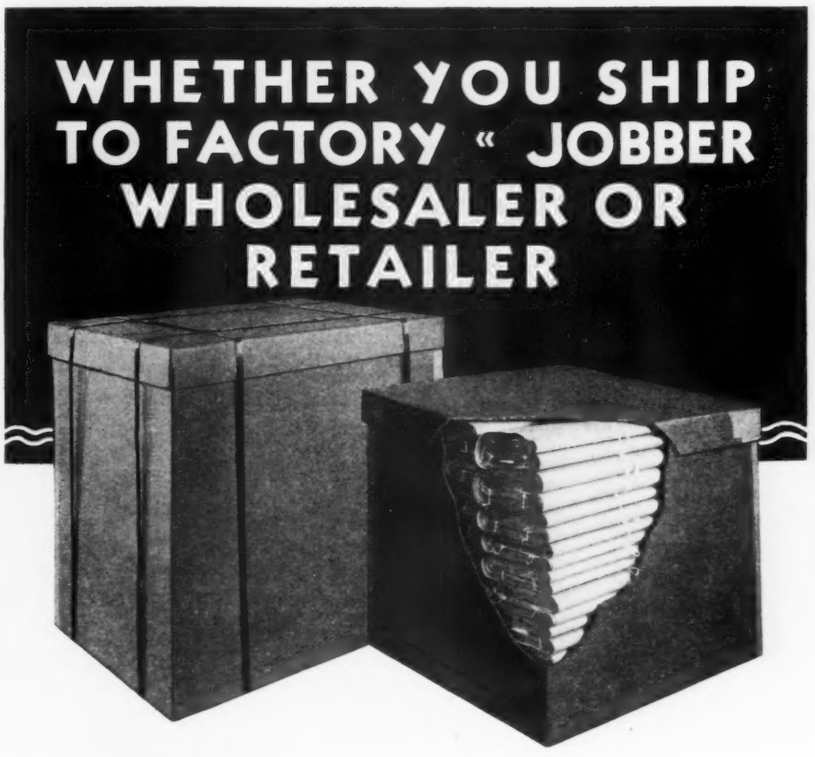
Griswold Joins Titan

Ray J. Griswold has joined the sales force in the South of Titan Chemical Products, Inc., manufacturers of dyestuffs, oils, sizings, softeners, etc., Jersey City, N. J. Mr. Griswold is well known among the southern mills.



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Above are shown two "oversize" Hinde & Dauch boxes for piece goods. Like every other H & D box they are **engineered** to perform the service required of them.

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454 Decatur Street Sandusky, Ohio

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Slashing and Weaving Subjects Covered in Meeting of Georgia Mill Men

THOROUGH preparation and efficient direction always seem to result in good meetings of the Georgia association. The discussion last month, of which this is the only detailed report available, was no exception. Slashing and weaving subjects of current and pertinent importance were discussed and the report of the discussion will be of value to the reader for application in his own plant . . .

A QUESTIONNAIRE of slashing and weaving questions constituted the program of the annual meeting of the Textile Operating Executives of Georgia, held on Saturday, September 16, at the Georgia School of Technology, Atlanta, Ga. This organization is composed of the superintendents and department heads of the Georgia cotton textile mills. There was a good attendance of these men, and a number of visitors from neighboring states, including Alabama, Tennessee, and South Carolina.

The election of officers for the next year was held at this meeting, and George S. Elliott, superintendent and manager of the Pacolet Mfg. Co. No. 4, New Holland, Ga., was elevated from vice-general chair- to general chairman, succeeding Albert Lehmann, Jr., superintendent of the Dixie Cotton Mills, LaGrange, Ga., whose term expired with this meeting. R. D. Harvey, assistant agent and superintendent, Pepperell Mfg. Co., Lindale, Ga., was made vice chairman succeeding Mr. Elliott. His unexpired term on the executive committee was filled by the selection of A. D. Elliott, superintendent, The Trion Co., Trion, Ga. John B. Jones, superintendent, Shawmut Mills, West Point, (Ga.) Mfg. Company, who has been filling an unexpired term to which he was elected last year, was named to succeed himself on the executive committee for a full 2½-year term. Robert W. Philip, Editor COTTON, Atlanta, Ga., was re-named secretary-treasurer.

Mr. Lehmann presided at the meeting on September 16, and D. R. Senn, general superintendent, Sibley and Enterprise Mills, Augusta, led the discussion on slashing; and R. D. Harvey conducted the weaving discussion.

The meeting was held on Saturday as an experiment, in the thought that with most of the mills closed on Saturday under the hours provided by the cotton-textile code, a better attendance would be produced—and the records show that this meeting on Saturday had the largest registration for a number of years that the association has enjoyed. In view of meeting on Saturday, the convention was condensed into a morning session, without an afternoon session, and this was followed by a Dutch luncheon in the Tech mess hall.

The meeting followed closely along the lines of all of the conventions of this organization, the session being confined almost entirely to a discussion of a questionnaire of subjects on the two departments named that had been submitted in advance to the members.

Before the practical discussion feature was opened, Dr. Herman L. Turner, pastor Covenant Presbyterian Church, Atlanta, was called upon for a brief inspirational address and discussed in an interesting and helpful way the spiritual and cultural aspects of the New Deal.

In opening the discussion on slashing, Mr. Senn presented the first question: *"What amount of variation in per cent size applied is to be expected on warp yarn? If figures given are based on full sets of yarn, do you allow for variation in moisture?"*

Variation in Size Applied

E. H. Rogers, agent, Fulton Bag and Cotton Mills, first responded stating that he would answer the latter part of the question first, declaring that if the figures are not based upon full sets, "I do not think you could get at the amount of size, and you must also make allowance for the moisture, and that means stripping it at various places. We took some strippings under three conditions. First at the beginning of the set with new size, and at the end of the set with new size, and at the end of the set with the size weakened down, and we found 2 per cent difference in the amount of size stripped. If you did not take the moisture content into consideration you could not get anything like the correct figures."

He explained that this 2 per cent represented the extreme variation between the strong and heavy size, and was a yard-by-yard variation. He said that he has a circulating system, and that the size does not get very weak.

George S. Elliott reported that several checks at his mill, taking the moisture into consideration, show a variation of 2¼ per cent. He added that the test showed them something further, that taking a strip of about four inches where the blanket makes a mark, they found an extreme variation over the average of about 5 per cent, which shows the importance of having a smooth blanket.

R. D. Harvey brought out the point that there would be a greater variation on sizing heavy than on sizing light. Mr. Elliott pointed out that there will be more variation on a heavy sley because the more open the sley is, the easier it is for the size to get through and go back into the box.

Worsted Covered Roll

In response to a question from E. H. Rogers as to experience with a roll covered with worsted yarn instead of the regulation blanket, J. D. Walker, over-

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are used in the manufacture of the famous Steiner-Liberty sleeping garments. The felling operation on these garments is distinguished by its perfection. For perfect felling at the lowest possible cost—there is only the Feldlock.

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seer of slashing, Pepperell Mfg. Co., Lindale, stated that their slashers are so equipped. Their yarn numbers run from 10s to 25s, and, "we have made tests as thoroughly as possible on our own account, and also followed tests that were suggested to us, and compared the results with some yarns sized in another one of our mills which uses a blanket." He stated that their results with the worsted yarn covering in the rolls is highly satisfactory, and answered questions by stating that there is a difference in cost in favor of the yarn covering; that they have no difficulty with this yarn kinking; and that the yarn covering does not get hard underneath. He stated that his 10s yarn is 60-sley, which everyone agreed was a sufficiently difficult construction to develop the value of a proposition. Mr. Walker explained the method by stating that instead of covering the roll with a solid blanket, a worsted yarn is wound onto the roll as a covering. The roll is dressed about once a day with one single strand of yarn the length of the roller; and the used yarn is cut off about every six or eight months and replaced with new yarn. Mr. Harvey stated that the original cost of this application was approximately $250.00 per roll.

Measuring the Size Mix

The second question on the list was, *"In making up a size mix, do you measure the water at the start? Do you measure the finished size? If so, please describe the method of measuring."*

C. K. Cobb, assistant general manager, Canton (Ga.) Cotton Mills, said, "Our method is to put the compound in and put in 16 inches of water. Then the starch is added and boiled for one hour, and then the steam is cut off and the agitator stopped, and this is allowed to settle and after settling we measure it again from the top and add enough water to bring it to 12 inches from the top." He explained that on the mix in the early morning it is not necessary to add as much as later on because of the fact that in the mornings there is more water in the steam. His kettle is 36-inch. He said he usually adds from ½ to 1½ inches of water. He does not let the steam go in while water is being added because of the agitation which would be created.

Mr. Powell, overseer of weaving at Chicopee, said they measure the water to start with and then measure the finished size with a stick.

V. J. Thompson, superintendent, Callaway Mills, Manchester, Ga., has a stick with a cross on it for measuring the water at the start and then measures the finished size and adds water to bring it up.

E. H. Rogers, agent, Fulton Bag, explained the method used in his plant of an overflow pipe to which point the water is put in, in making up the mix, and in making he finished size.

Walter Dillard, Jr., superintendent, Sibley Mfg. Co., Augusta, explained his method of raising the paddle so that the bottom of the paddle is the measuring mark. He does not add water after the size is finished due to the fact that you cannot control condensation. He said he finds a difference of one to two inches in the height of the completed size mix and attributes this to condensation.

In answer to a question as to the increased volume through condensation, Mr. Rogers reported it as his recollection that his volume was increased from 95 to 115 gallons, with low pressure steam.

Mr. Harvey asked for experience with the use of a glass gauge, similar to a water gauge, on the outside of the kettle, but no one reported experience with this.

Temperature Controls on Slashers

The next question was, *"What has been your experience with temperature controls on the slasher? At what points do you use them, and at what points are they most useful?"*

R. S. Steele, superintendent, LaFayette (Ga.) Cotton Mills, reported the use of a complete installation on slasher cylinders, size box, and storage and cooking kettles. As to results, he stated that, "our yarn weights run a great deal more even, and the moisture content is more constant. When we put this installation on we increased our production in the weave room by around 2 per cent. Our margin of weights run more even. We have very little trouble in keeping our cloth on weights."

ALBERT LEHMANN, Jr., superintendent, Dixie Cotton Mills, LaGrange, Ga., retiring general chairman of the Textile Operating Executives . . .

In answer to questions, he admitted that prior to installation of the equipment he was not getting very satisfactory results, under the circumstances, from his slashers; that he had old machines, but pointed out that previously it was all guess-work on his part as to the results he was getting on his slashers.

In answer to a question from George S. Elliott, he stated that without the controls he did have trouble with mildewed yarn but that he has not experienced this since applying the controls and that they are a great help in preventing mildew. He agreed with an inquiry from Mr. Elliott indicating that he can run the yarn at a maximum speed on the slasher with safety, explaining that he has a chart showing the correct speed for different numbers and ends of yarn. On a 3,600-end warp of 24s yarn, he runs 28 yards per minute. He was not able to answer a question from Mr. Elliott as to whether there was any saving made in steam used through the use of the control. In answer to Mr. Harvey he stated that it was a simple and easy matter to make an adjustment of the speed and temperature used, by following the charts prepared for this purpose, in the case of a change in style.

Joe L. Jennings, superintendent, Fairfax Mill, was called upon and stated that they had not gone into the matter to a very great extent but that personally

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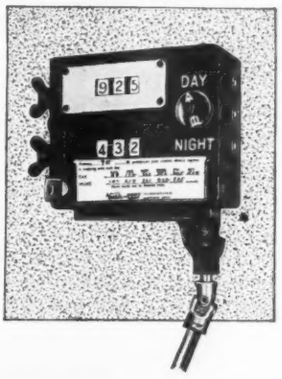

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TEXTILE COUNTER SPECIALISTS — Veeder-Root INCORPORATED HARTFORD, CONN. — SOUTHERN OFFICE GREENVILLE, S. C.

he feels the controls are a good thing. He has double-head slashers and runs so many different styles together that it is difficult to work out a schedule, but he does have controls on some of his cylinders and size boxes.

"We have had a full equipment for about 18 months," said E. Lehmann, superintendent, Langdale Mill, "and we get very satisfactory results and I would not want to be without the controls or to take them off again. With the controls our moisture content is more constant. At the first we did have some trouble for 30 minutes or so in starting up, but got this straightened out. Our warp numbers run from 10s to 17s. Our speed is about the same as before. We try to finish with 7 per cent moisture. We like the controls very much, the work runs better and it shows up all the way through the weaving."

"We have them on with one control for both cylinders, on the size box, and on the cooking kettles," said George S. Elliott, "and we feel that it is one of those steps necessary to bring about uniformity. We have found that they are a help in other respects, too. Cards are made out for different speeds and temperatures for different styles and yarn numbers, and when we change sets we change the speed and temperature in accordance with these cards.

"The controls eliminate guess work at this point. At our plant they were put on before anyone took the time to make a check as to the amount of condensation per pound or per 100 pounds, and I would suggest that any man going into this matter should as a matter of satisfaction make a check on the amount of water condensed and keep the number of pounds that passed through the slashers before and after applying the controls. I can say, however, that we have to go by the return to the hot well, and where it used to be condensation full of steam, now it is only condensed water. As to the place I would put them on first, I would start with the cooking kettle, inasmuch as all of the size passes through the kettles; if you have uniformity in cooking it you have aided conditions all the way through."

Frank H. Cooper, of Fulton Bag, asked Mr. Elliott several questions in an effort to bring out whether or not, if the control were set for 7 per cent regain and it became necessary to speed up the slasher production, etc., the control would adjust itself to produce 7 per cent at the higher speed. Mr. Elliott explained that the control would operate within defined limits, but that if any radical change in the speed was made, it was a simple matter to adjust the control to continue to produce the desired regain at any speed, and that this setting was very easy to make.

George B. Moore, superintendent Gainesville (Ga.) Cotton Mills, reported the use of a control similar to Mr. Elliott's on his slasher cylinders, where he runs from 200 to 216 degrees temperature, to get a 7 per cent moisture content. He also has controls on the cooking kettle.

"We have our slashers equipped throughout with the automatic controls," said Sam Burt of the Avondale Mills, a visitor. "We run different temperatures on different styles, and probably run higher temperatures and possibly higher speeds than the rest of you. We have, I guess, 30 to 40 different styles and we have a chart made up for each different style on temperature and speed, and the temperature on our cylinders ranges anywhere from 220 to 242 degrees. We have found the controls very satisfactory and leave about 8 per cent moisture in the yarn."

Answering Mr. Elliott, he said that beyond normal mechanical adjustment he had encountered no trouble at all with the control and that it is a simple matter to make adjustment in the temperature in changing from one style to another.

There was here a brief discussion as to the use of thermostatic or automatic size level controls in the size box, Mr. Steele and others reporting that they maintain a practically constant level in the size box at all times and that no difficulty is encountered with them. V. J. Thompson says that his size level will vary about one inch; that he has a control equipped with a bulb and when the size gets over the bulb it shuts off the supply and when the bulb is exposed

G. S. ELLIOTT, superintendent and manager of Pacolet Mfg. Co., New Holland, Ga., who was elected general chairman

the supply is started up until the bulb is covered again. He has had these on for two or three years and is well pleased.

D. R. Senn stated that they have equipment for controlling on slashers at one of the mills at Augusta, and that he agrees with Mr. Elliott that in making the application he would start with the kettles and then put on the levelling apparatus on the size boxes.

The fifth question asked, *"What percentage of tallow should be put in size?"* This was interpreted by Mr. Elliott to refer to the amount of softener or compound in relation to the weight of starch, and Mr. Elliott stated that he runs about 8¾ per cent. There was no further discussion on this, the matter appearing to be one almost entirely dependent upon the construction and local conditions.

Converted Thick Boiling Starch

The next question asked: *"Which produces best weaving results: acid converted thin-boiling starch or ordinary pearl starch liquefied with enzymes? Why?"*

Mr. Senn reported briefly that he is using a thick-boiling starch converted by an enzyme and that as the result of about six months of experience at one of the plants, it has been recently put in the other. He stated that he is getting very good results with it. He called upon Mr. Dillard, superintendent of Sibley, who reported that as the result of the experience at the other plant, he has been using this method at

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Sibley for several weeks with the following observations: "Added weight to the warp yarn to the extent that we have changed the warp number as much as one number lighter; there is no processing tax on the starch content so applied; in seven weeks our weave room sweeps have been materially decreased, with less shedding in the weave room and more penetration of the yarn by the size. Another excellent result is, we are not having trouble in our circulating system pipes being stopped up. We are making better warps than we were making three months ago and if it continues we will be more than pleased."

In answer to a suggestion from Mr. Senn, Mr. Dillard added that at the time they went on the enzyme, they were making a concentrated drive in the slasher room to improve conditions, and that he was not able to attribute all of his improvements to this particular change, but would be ready to allot the proper percentage of the good results secured to each factor.

Another man reported the use of thick boiling starch without an enzyme, on 21½s to 30s yarn, cooking the thick-boiling starch 1½ hours. At this point the answer submitted by W. H. Hardeman, manager and superintendent, Consolidated Textile Corporation, LaFayette, Ga., to this question was read in Mr. Hardeman's absence:

"I consider liquefied pearl starch better than thin-boiling starch. We find a very noticeable increase in the amount of added weight taken up by the warp yarns, due to the increased penetration of the size into the yarns, and without any increase in the per cent of solids used per finished gallon of size. There is no processing tax on starch size which reduces net waste in direct proportion to the increase in the amount of size absorbed by the warps.

"Then again we do not have the trouble of circulating pipes becoming stopped up because the size solution is practically a non-congealing solution, and prevents formation of any tendency to cake in the cooking kettles, hence we find it very free of lumps. My experience has been also that it does not cling to the cylinders as badly as other starches. This is due to the fact that the starch granule is liquefied completely into a smooth size solution and thus prevents raw starch troubles.

"Excessive humidity, I find, is not needed in the weave room for properly conditioning the warps for best weaving conditions, because the soluble starch produced by liquefaction does not water-proof the thread to a degree of repelling moisture. Hence the ease with which the warps are conditioned for production of best weaving conditions. I find no trouble in changing from one car of pearl starch to another or from one brand of starch to another since the enzyme liquefies pearl starch made by all of the different starch manufacturers equally well. We have no trouble with the size foaming in the size box because no chemicals are added which cause foaming."

E. Lehmann of Langdale Mill next reported, stating that, "we have been using a thick-boiling starch converted by an enzyme for several years on certain fabrics. I think it depends on the grade of the fabric; and on certain grades of coarse fabric the pearl starch works very satisfactorily." He stated that it might present the difficulty of controlling the fluidity after conversion, and bringing it up to temperature and holding it there, but, "naturally we would not use it if we did not like it."

Answering questions, he stated that on these fabrics the use of the pearl starch is somewhat cheaper, representing a saving of about $1.00 per kettle of size, and that "we get more gain with this than we did with thin-boiling starch." He explained that the saving indicated took into consideration all expense involved in the use of the two starches.

End-and-End Lease

"Which gives the best running warp: an end-and-end lease for each section beam in the set, or the regular way of leasing, which is a lease rod for each section beam?", was the next question submitted by Mr. Senn. C. K. Cobb reported the use of what he described as an end-and-end lease, stating that his method makes the work run better on his class of goods in the weave room, coarse work. He explained that "if we have four section beams we use three rods which divide the four section beams, and then one rod takes an end-and-end lease for each beam which gives seven rods for a set of four beams, which gives a division of every thread." He stated that they have 2,000 ends of 8s warp, and that the section beams are leased on the warper.

R. D. HARVEY, superintendent, Pepperell Mfg. Co., Lindale, Ga., who was elected vice general chairman . . . . .

Mr. Senn said, "I have used that same system for years, and imagine that most everybody else does." Walter Dillard, Jr., explained that he had discontinued the use of this method because it required additional labor which he could not spare for the task.

Most of the men present seemed to be using the regular method of leasing, a lease rod for each section beam, and there was no further discussion on this question.

Tension on Slasher

"How do you govern tension of warp on the slasher?" was the eighth question in the list, and this was interpreted to refer to the definite or fixed tension found on the slasher. Mr. Elliott explained that his slashers are positively driven and the tension is regulated by the amount of cloth or cushion on the roll or by changing a gear. Frank H. Cooper, on positively driven slashers, handles the matter in the same way, changing a gear if the tension change cannot be secured by altering the amount of cushion on the roll.

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Reasons given by most mills for using ARCY liquefied pearl starch usually are not so much because of the dollar or two saving in the cost per kettle of size, but the better results they find in weaving the warps, and the feel of the finished goods, which is so pleasing to the buyers of the goods. Also, the more soluble nature of the starch assists the finisher to get superior finishes at the bleach works.

Arcy liquefaction gives to corn starch size the slow congealing properties of potato starch size, which corn starch size does not possess naturally. Slow congealing size remains fluid for longer time at temperatures below boiling, and its fluid state during the time the wet warp is passing from the squeeze rolls to the drying drums, allows the size to FLOW into the crevices between the cotton fibres, and probably is responsible for the smooth feel imparted to the sized thread.

ARCY is the only enzyme product which has stood the test of time (over 8 years) for successfully liquefying ordinary pearl starch in the cooking kettles. No acids, chlorine, or other similar oxidizing chemicals are present. No extra equipment required, and its use is simple and practically fool-proof.

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As to the matter of actually determining the amount of stretch secured on the slasher, and knowing what to do to decrease it, if it is excessive, Mr. Elliott said that the best way is to put measuring instruments—counters—on the front and rear beams, and accurately determine the length of the stretching from the back to the front of the slasher. He stated that at a previous meeting it had been pretty generally agreed that stretch under 2 to 2½ per cent was nothing particular to worry about, but that anything above that should be looked into.

Cloth on Front Calender Roll

The next question was similar, *"How do you regular the amount of cloth that is put on the calender roll in front of the slasher?"* One answer that had been submitted in advance, stated that the mill answering does this by "changing the gear on the drive shaft—between the take-up roll and the squeeze rolls in the size box—to give the number of rounds of cloth wanted on the take-up roll on the calender roll in front of the slasher." The gentleman who had submitted this answer did not clarify it at the meeting; Mr. Dillard bringing out that he could not understand how it would be possible to arrive at the amount of cloth necessary on the roll by changing the gear.

Mr. Elliott brought up under this point an inquiry as to how a man determines whether he has enough or too much cloth on the roll; stating that his man goes largely by the way the yarn "breaks" or splits back of the lease rod—that is, whether the yarn is separating close to the rod or whether it is splitting about four inches back of the rod; he then changes the amount of cloth on the roll accordingly.

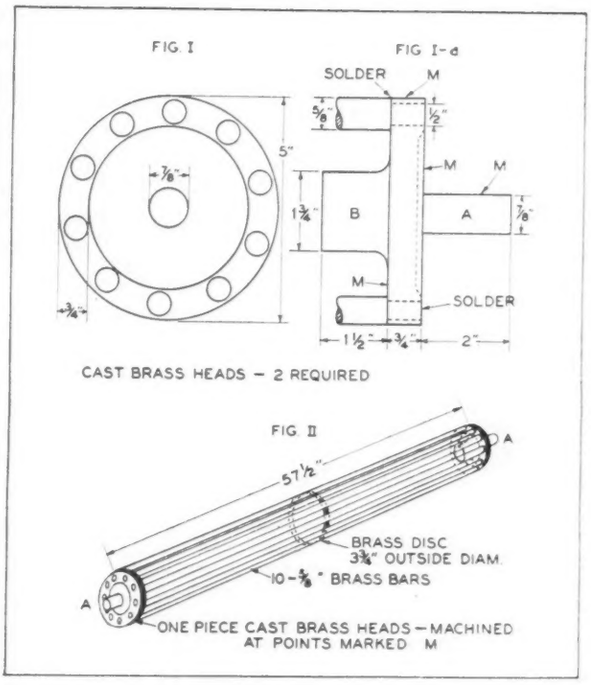
W. T. Osteen made an interesting report of a recent visit, stating that this mill man reported that he had less than one-half of one per cent stretch on his slasher. Mr. Osteen asked him for a demonstration. The man put a yardage counter on the warp at the back of the slasher and also at the front, making a mark on the yarn and then measuring from this mark. Mr. Osteen said that when 100 yards of warp had passed under the back counter, the front counter showed that 100 yards and 17 inches of warp had been measured. This was on 17s warp running at 22 yards per minute. Mr. Osteen did not know any further details of the man's condition, as to whether this was a light sley construction, which, with a positively driven slasher, would permit the yarn to go around the cylinders without hugging, etc. The report was received with interest and it was the general opinion that it was a splendid record, regardless.

Temperature in Size Box

The next question asked, *"What temperature should be run in the size box, for securing penetration? State yarn number."*

Categorical answers were received as follows from different men: 21s yarn, 190 degrees; 24s yarn, 200 degrees; 12s to 17s yarn, 200 degrees; 8s yarn, 200 to 208 degrees; 7s yarn, 190 degrees; 21½s to 30s yarn, 205 to 208 degrees; 31s yarn, 200 degrees.

The last prepared question on slashing asked, *"What advantage have you found by using double size boxes on the slasher?"*



"HOLLOW" IMMERSION ROLLER FOR SIZE BOX

A drawing of the immersion roller mentioned by Mr. Lollis from Ware Shoals: 10 brass rods have ½x¾" shoulder turned on each end—pressed into drilled holes in head—then soldered. Supporting disc in center of cage is soldered to all 10 bars (Fig. 11). Large boss marked "B" on inside of head provides sufficient metal to support shaft "A". Shafts "A" are bosses on end casting. There is no shaft running entire length of cage . . . . . .

Mr. Senn stated that on some slashers he has double size boxes, "and the only reason is that sometimes we run a reverse twist yarn in the warp and sometimes we have to dry that reverse twist yarn and we run it through a separate size box for this purpose."

Double Size Boxes

Mr. Lehmann reported the use of double size boxes on wide warps, on a very heavy sley, because he found that with a single size box on this wide heavy work he was not getting a full penetration of all of the warp ends. This was on a 100-inch warp for a 112-inch loom.

J. D. Walker of Lindale quoted Mr. Silcox of Saco-Lowell Shops as stating that in two or three instances he knew of double size boxes were being used and that through their use the amount of dry size applied on the yarn was increased to 30 per cent.

E. T. Lollis, overseer weaving, Ware Shoals Mfg. Co., Ware Shoals, S. C., reported the use of double size boxes on a 136x60 construction, stating that through the use of the double size box he gets a better penetration with less shedding at the loom.

After the prepared discussion, Mr. Lollis was asked to describe what he termed a "hollow" immersion roll which he is using with very satisfactory results. He described this as being constructed, instead of a solid or continuous surface on the roll, of ten small bars equally spaced around the surface or periphery of the roll. He stated that he has eight

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** To observe or mark the difference between; select.*
(Webster's Dictionary)

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slashers equipped with this "hollow" immersion roll, and that it gives him less shedding at the loom with more uniform penetration at the slasher. The rod or sections of the roll are about one inch apart.

Cleaning Filling Quills

The weaving questions to be discussed were next taken up under the supervision of R. D. Harvey. The first question read:

"Do you use a machine for cleaning filling quills? If so, state number of quills cleaned per minute. Do you have one man—a loom fixer or other mechanic—responsible for making adjustments on this machine, or are adjustments made by just anyone? Does the machine decrease the life of the quills?"

There were two answers read to this question by the secretary. The first was from a man who stated that his machine cleans about 40 or 50 quills per minute; and that one man is responsible for the operation of the machine. This man stated that the machine does decrease the life of quills. His warp numbers average about 30s. The other answer read stated that, "we use a machine for cleaning filling quills. We clean 380 quills per minute with four heads of 95 quills per minute per head. One man does all of the fixing on our machine. It does not shorten the life of the quills."

George S. Elliott reported that he has a fixer who looks after his machine and that if the machine is kept properly set up, it does not damage the quill, but that "unfortunately they do not stay set that way."

The prepared answer of R. D. Harvey stated that, "where the yarn is finer than 10s, we skin all of our quills with Type K single-head machines. On our coarse numbers, ranging from 2s to 10s, soft-twisted filling, we find that we can skin these cheaper by hand. A man will average skinning about 120 quills per minute on these coarse numbers. This work is on a piece basis.

"We find that practically all the quills broken by a quill skinning machine are when the operator allows the hopper to run nearly empty and there is not sufficient weight to hold the bobbin parallel with the strippers. We kept a record of the number of quills broken by the machine for a period of several weeks, and found that the average was about one quill in every 16,000." He stated that his machines clean about 100 quills per minute. Mr. Dillard reported a production of 90 quills a minute, and explained that he has one section man in the spinning room who makes all of the adjustments on his machine, and that while he thinks the machine does decrease the life of the quills slightly, he was not in a position to say just how much.

Mr. Harvey said he knew of one mill which cleans 125 quills a minute, and that this might be run up to 145. N. S. Turner, vice-president, Covington (Ga.) Mills, reported that they clean between 85 and 100 quills a minute and stated that the machine does damage the quills to a small extent. He uses a 6¾-inch quill. Mr. Harvey uses 8-inch and 8¾-inch quills.

A. D. Elliott, superintendent, The Trion Company, submitted the following report:

"It is now our practice to use both the machine and hand method of stripping filling quills. Those quills carrying yarns that number from 20s on up are all stripped by machine. This machine is of the latest type and cleans 104 quills per minute, when running at 100 per cent efficiency, 8¾-inch quills. Our reason for employing the machine method of stripping is that it has proven injurious to the hands of the men to knock off any yarn that sizes up lighter than 20s. Numbers under 20s may be knocked off by hand more economically than they can be machine-stripped.

"There is but one man responsible for making adjustments on this machine. He is the section man in the spinning room whose section is nearest to the location of the stripping machine. No one, not even the operator, is supposed to make any change in the settings of this machine without the permission or presence of this section hand.

"We have found that the machine does to some extent injure the quills, especially when one gets hung up in the feeding slot. When this happens, the machine is very likely to break or gouge a quill. The machine will also gouge a quill that is too large for the adjustment and gets into the machine by mistake. Of course this is the fault of the operator, but nevertheless it is known to occur."

Walter Dillard asked how many men present were paying for cleaning of quills by machine by the piece. He stated that he does this, having secured a counter satisfactory for the purpose, built especially for this application along the line of a pick counter. Mr. Harvey stated that he had never been able to get a counter which could be applied without the risk of being improperly turned to register production not secured. George S. Elliott states that he pays for this work by the box.

Mr. Harvey also brought up the question as to what is used to cover the jaws on the stripper which cut the bobbins. His report stated that, "We used leather for quite a while, but are now using cold water duck and rubber packing, and get about twice the life from this that we did from leather."

Oiling Schedules for Looms

The second weaving assignment stated: *"Please prepare a schedule for the proper oiling of looms under your conditions."*

E. Lehmann of the Langdale Mill stated that most of his looms are equipped with Alemite fittings, and that they have a regular time for oiling of the various Alemite fittings, and that this system is checked through a series of experiments to see how long the lubrication of each type of Alemite fitting on the looms should last.

Several of the members had prepared lubrication schedules for oiling of looms with the usual lubrication fittings, and it was decided that these would be better understood if published and studied in the report rather than having them read at the meeting. Two such reports were turned in. One man reported

(Continued on page 113)

PERSONAL NOTES
about Men You Know

R. C. CAINE, who is general sales manager of the recently formed Rochester Engineering & Centrifugal Co., Rochester, N. Y., which is to manufacture the line of dyeing machinery formerly made by the American Laundry Machinery Co., is well known in the textile industry, having specialized in handling the textile business of American Laundry Machinery Co. for the past several years.

R. C. Caine

FLOYD B. WATSON has returned to his former position as superintendent of Griffin Mills, Griffin, Ga., succeeding W. D. MASSEY. Several months ago Mr. Watson resigned at Griffin to become superintendent of the Exposition Cotton Mills, Atlanta, and leaves this position to return to Griffin.

ROSCOE O. ROBERTS has resigned as general superintendent of the Alabama Mills Co., with headquarters in Birmingham, Ala., and plants in ten Alabama towns. LLOYD H. RICE, who has been assistant to Mr. Roberts, has succeeded him as general superintendent.

HENRY MCD. TICHENOR, formerly vice-president, has been made president of the Walton Cotton Mills, Monroe, Ga., succeeding his late father, G. W. FELKER has been made vice-president; A. C. MOBLEY is secretary-treasurer, and HARRY J. HORN is superintendent.

H. G. SMITH, formerly with the Dovedown Hosiery Mills, Griffin, Ga., is now superintendent of the Jac Feinberg Hosiery Mill, Rock Hill, S. C.

W. M. YOW is now with the testing department of the B. F. Goodrich Rubber Co., Akron, Ohio. He is a graduate of the textile department, Georgia School of Technology, Class of 1929, and for the past three years has been with the Martha Mills, Thomaston, Ga.

ROBERT B. HORSLEY is now connected with Stein, Hall & Co., with headquarters in Atlanta. He was formerly superintendent of the West Boylston Mfg. Co., Montgomery, Ala., and completed a course in the textile engineering department at the Georgia School of Technology.

W. A. PRIDMORE is overseer of weaving at the Highland Park Mfg. Co., Rock Hill, S. C.

WARREN H. PEARMAN, assistant overseer of carding at the Clark Thread Co., Austell, Ga., has resigned to accept a position as general overseer of carding, Lavonia (Ga.) Cotton Mfg. Co.

D. J. BROADHURST has been made factory engineer at the Gates Rubber Co., Denver, Col. Mr. Broadhurst, who was formerly with the experimental and production division of this company, is a graduate of the textile engineering department, Georgia School of Technology.

EMERSON B. TIFFT, general superintendent of the Harmony Mills, Cohoes, N. Y., until that plant was liquidated in 1932, has become associated with the Draper Corporation of Hopedale, Mass., in a sales capacity, with headquarters at Spartanburg, S. C. Mr. Tifft has been located at South Windsor, Conn., for the past year.

R. W. LAWSON, a recent graduate in the co-operative textile course at the Georgia School of Technology, is located with the Chicopee Mfg. Corp, Gainesville, Ga. J. A. FIFE, of the same course, is with the Judson Mills, Greenville, S. C.

E. T. WOODS, plant engineer of the National Oil Products Co., Harrison, N. J., has been made works manager, in charge of the production and maintenance departments and the laboratories; he will retain his position as plant engineer. Mr. Woods was graduated from Clemson College, with a degree in mechanical and electrical engineering.

L. A. BRYAN, formerly night overseer of weaving at the Opp (Ala.) Cotton Mills, is now day overseer of weaving at the Micolas Cotton Mills, Opp, Ala., succeeding J. L. BEAVER, who is now with the Pilot Mills Co., Raleigh, N. C. O. W. WHATLEY has been made overseer of weaving at the Opp Cotton Mills.

E. J. SULLIVAN has been made New England representative in charge of bushings, bearings and bar stock for The Johnson Bronze Co., of New Castle, Pa. He was previously New England representative for the American Non-Gran Bronze Corp., for a number of years, and during the past four years sales manager of that concern.

A. A. HADDOX has been made overseer of carding at the Pepperell Mfg. Co., Opelika, Ala. E. T. COMBS, formerly overseer of carding and spinning, is now overseer of spinning.

T. R. SOSEBEE is general superintendent of the Banning (Ga.) Cotton Mills. J. C. BRANNON is superintendent, and E. J. WALDEN is assistant superintendent.

CURRAN S. EASLEY, formerly chief engineer for the Callaway Mills, LaGrange, Ga., is now sales representative with headquarters at 300 West Earle St., handling stokers, fans, trolleys, cranes, hoists, etc.

RALPH ARMSTRONG has been made treasurer and general manager of the Lincolnton Thread Co., formed to take over the Wampum Mill, Lincolnton, N. C. He was formerly purchasing agent for Textiles, Inc., Gastonia, N. C.

D. R. SENN, formerly superintendent of the Enterprise Mfg. Co., Augusta, Ga., who has lately been working with the engineering departments of the Enterprise Mfg. Co. and Sibley Mfg. Co., has recently been appointed general superintendent of these mills.

C. C. PAGE, night superintendent of the Sibley Mfg. Co., has been appointed superintendent of the Enterprise Mfg. Co., succeeding JOHN KLINCK, resigned.

Obituary

JOHN M. CANNON, for many years superintendent of the Easley Mill of Woodside Cotton Mills, Easley, S. C., passed away on August 28th, at 66 years of age. He had been connected with various Carolina textile mills for 30 years.

J. E. SHERRILL passed away at 80 years of age, at his home in Mooresville, N. C., on August 22. He was for many years head of the Mooresville Cotton Mills.

JAMES M. ALLRED, of Hickory, N. C., who had for more than 50 years been connected with the textile business, died recently at the age of 72 years. He had been identified with the Shuford mill interests of Hickory for more than 40 years.

W. L. NICHOLSON, treasurer of the Globe Yarn Mills, Mt. Holly, N. C., and the Jewel Cotton Mills, Thomasville, N. C., died on August 24th at his home in Charlotte, N. C., at the age of 63 years.

BARBER-COLMAN AUTOMATIC SPOOLERS AND SUPER-SPEED WARPERS

REDUCE

SPOOLING AND WARPING COSTS

FLOOR SPACE

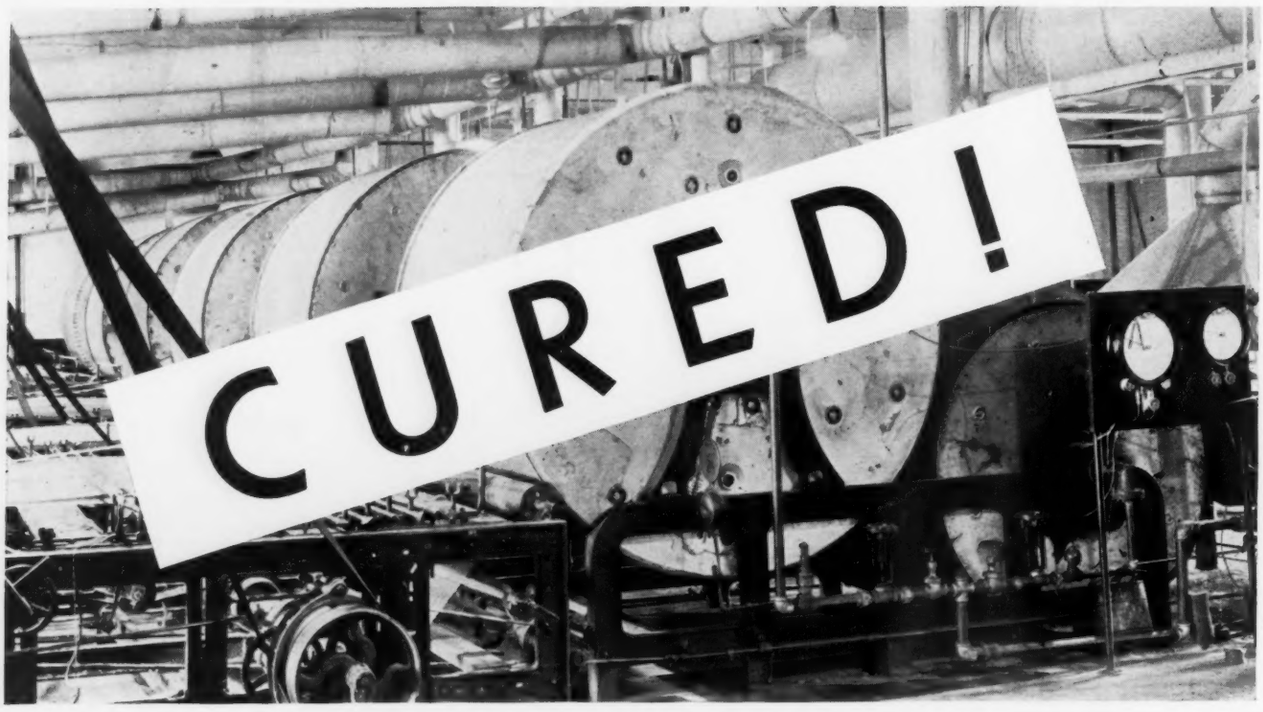
YARN IN PROCESS

LOOM STOPPAGE

SLASHER WASTE

AND

YARN TENSIONS



Another Mill Says—

"No More Loom DANDRUFF!"

No mill can expect the government to cure its ills. It is true, industrial ills are being tackled by the government, but manufacturing ills must be cured by the individual mill.

Uncontrolled Slasher operation should be cured at once. There are new rules in the game but success still depends on *economical* manufacture and *upholding of quality*. Because Engineered Slasher Control will increase quality and reduce the amount of raw materials used, it is ideal for present-day conditions.

Correct Slasher Control means better warps, decreased loom stoppage and higher quality goods. At the same time this increase is made with a distinct saving. Slasher Control is in every way a paying proposition.

Foxboro engineered control *is more* than the application of instruments. It goes into the entire slasher operation with the view of giving a controlled, uniform warp of the best quality at the lowest cost.

Talk to a Foxboro Engineer. There is no obligation—and you will probably profit from the talk. Write today.

TEXTILE INSTRUMENTS

In addition to slasher control Foxboro has a complete line of Recording and Controlling Instruments and has applied them with success to practically every textile mill operation. Send your problem to us.

Temperature Controllers
Recording Thermometers
Humidity Recorder and Controllers
Steam Flow Meters
Pressure Gauges
Time Temperature Controllers
Tachometers
Power Plant Instruments

NRA MEMBER U.S. WE DO OUR PART

FOXBORO
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THE COMPASS OF INDUSTRY

THE FOXBORO COMPANY
FOXBORO, MASS.
Branch Offices in Principal Cities

COMPLETE TEXTILE MILL INSTRUMENTATION

CURRENT TEXTILE TOPICS. . . .

Talk of the Month

BY THE middle of September the refrain of the cotton industry might have been taken from the line of an old song: "We don't know where we're going, but we're on our way." There were encouraging signs that the market for cotton goods was on the verge of a healthy broad movement, following a quiet August in which misgivings were raised as to the capacity of the public to purchase the merchandise offered on a rising scale of prices. This was only the beginning of the rise, however, and Ernest N. Hood, president of the National Association of Cotton Manufacturers, was predicting that the crisis for the industry under the recovery act was still a month away. Which brings us to the present and leaves us waiting.

The General Situation in Textile Markets

Since the middle of July, there has been a series of dual or conflicting relationships through which it has been difficult to proceed along normal lines. Some of these have been temporary phases and others perhaps will leave a permanent change upon industry and business at large. The cotton industry faced a dual condition in being alone under the Nira for awhile, and waiting for other industries as well as other business to get adjusted. The industries gradually got into new schedules, but there remained the adjustments of general business under the broader NRA program.

That business has gone through the obstacles of conflicting elements in as broad a movement as has been seen is the result of underlying sound conditions. The government officials laid slackening of cotton mill business in August to over-production in the earlier heavy movement, induced by the desire to forestall as far as possible the extra costs incident to the new schedules under the code and the imposition of the processing tax. Yet the August consumption of cotton was heavy, especially in comparison with that last year, and stocks of distributors' goods nevertheless were running low by mid-December. In fact, if the easing of prices late in August and early in December had stopped sooner than it did, the buying probably would have turned upward promptly because that is what happened when values steadied.

It was due as much to the requirements of the recovery program as to rapid price advances created by normal reaction from the depression that there was much uncertainty at the start of the fall. Notwithstanding a united effort to put over the NRA program, the first results were rather negative, because distributors committed to helping the movement were nevertheless waiting for signs to assure them of the wisdom of proceeding on the assumption of a broad adjustment of purchasing power to higher prices of merchandise.

Growing belief is found that such benefits as the restrictions upon manufacture and the regulation of work in the broader field of the NRA will be not only revolutionary but evolutionary, or in other words a part of the gradual adjustment which comes in the economic affairs of men. But the Administration program still involves temporary measures which complicate the future and one of these is the processing tax, which is calculated for extension over to another season. Thus there remains for the cotton industry a dual force for higher prices—normal recovery and imposition of a processing tax—which led Mr. Hood a month ago to forecast the crisis for October.

Much hope was placed all summer in the development of concrete measures for the inflation which would restore the balance of purchasing power and production. For a long time it was hope deferred. A sharp advance started in speculative markets early in September on word from Secretary Wallace and Mr. Baruch suggesting that inflationary measures were in the offing. It still remained a phantom, though by the time this is published the bogey may have turned out to be a real element, although Mr. Wallace's half promise still has considerable time for fulfillment as he allowed three months still for action along the lines suggested.

Considerable comment has been made this fall over the relative gain of all-cottons in some directions over the mixed fabrics containing rayon or even all-rayons, as one of the features of the fundamental market developments. In another direction, the market is affected by the adjustments to the code, goods woven with the colored yarns gaining an advantage over prints because of the added charges for the latter. A considerably increased demand for yarn-dyed cloths was reported after a month of the new conditions.

PROGRESSIVE problems of summer over-production, the processing tax, the uncertainty of fall buying at higher prices entailed by the NRA program and adjusting the cotton industry itself to the broad change of the new era have concerned the mills in New England through the fall to date. The cotton textile industry, said the First National Bank of Boston in its last monthly New England Letter, "has been the first important line to show a marked decline in activity from the high level which culminated the sharp spring upturn. This decrease in output was partly the result of physical limitations on production imposed by the industry's code, effective on July 17, which reduced machinery operations in some sections of the industry from around 120 hours per week to the 80-hour limit set by the code.

New England Mill Situation

"Other factors, however, were probably as important in curtailing output. A natural let-down was to be expected as the tremendous volume of orders

ARE YOU LETTING DELAY STEAL YOUR MONEY?

"We feel that we have lost money by not having these installations earlier." And the same mill says, regarding its Morehead Back-to-Boiler System—

"In addition to the fuel saving—which we are sure justifies the installation—we are putting all our condensation back into our boilers automatically without the upkeep cost of steam pumps.

"We are able to handle these returns with your system, *regardless of temperature*. Our equipment by being perfectly and automatically drained, is more efficient."

It may be costing you money to be without Morehead equipment. A survey of your plant by our engineer in your locality costs nothing and involves no obligation. This year of all years can you afford to overlook this opportunity for substantial savings?

MOREHEAD MANUFACTURING COMPANY
DEPARTMENT C DETROIT, MICHIGAN

Morehead
Back to Boiler
SYSTEM

COUPON

Morehead Mfg. Co.
Department C
Detroit, Michigan

I'd like to know the experiences of Morehead users and to find out what Morehead methods will save me.

Name_____

Company_____

Address_____

City_____ State_____

(536)

The BUYER'S Column

What the Buyer owes the Pioneers

by Blackie

Without pioneers—those who endure the hardships in order that you and I (the buyer) may profit by their experience—no branch of industry would be very successful.

•

To these pioneers we are all greatly indebted morally and financially.

•

In the textile industry it has represented years and years of hard work of the greatest geniuses, as well as the expenditure of millions of dollars—just in order that you and I may produce a greater assortment of fabrics more economically and more perfectly.

•

In return for this aggressiveness—this missionary work—this great outlay of money—you and I owe these pioneers a consideration plus a differential in price—due to the patented indispensable improvements which represent a true value and cannot be imitated from a standpoint of results in the operation of the item in question.

•

For several generations the Steel Heddle Mfg. Co.—plants at Philadelphia, Pa. and Greenville, S. C.—have been doing just such pioneer work for the textile mills as regards harness equipment.

•

Profit by their experience as well as encourage this helpful attitude.

•

B STAFF

placed in the spring in anticipation of higher prices was filled. In addition there have been definite hindrances to the placing of new orders, the most tangible ones being the confusion over costs and prices under the operation of the code, the tax of 4.2 cents per pound on the first processing of raw cotton which went into effect on August 1 and the floor tax on cotton goods in the process of manufacture or distribution August 1. Less tangible factors in the situation have been the prospective demand-supply situation in raw cotton during the coming year and the extent to which the retail markets will be cleared of the larger volume of higher-priced goods now on the way to the retailer."

These complications of an adjustment period, something entirely new in the history of economics and therefore the more bewildering, have not obscured altogether the constructive phases of the movement in cotton goods. In fact the upward trend of employment before the adoption of the code has not been impeded in New England mills under the early working of the code, for in this region and particularly Massachusetts the result has been an upward adjustment of hours. Then, too, the rising trend of prices helps the finer goods and New England benefits there. But, as Mr. Hood says, the crucial time is at hand in the matter of consumption.

As to the relative benefits of the new mill schedules, Charles S. Kelly of New Bedford writes in the *Standard Times*: "Citizens of Bristol county should realize the NRA is doing and is going to do more for Massachusetts, and more particularly Lowell, Fall River and New Bedford, than any other section in the whole United States. This is true because the cities in Massachusetts were under a greater handicap compared to others before the New Deal came into being." In this statement, Mr. Kelly really intimates that what the NRA will do is not to give these cities a relative advantage but to establish for them an equitable competitive position.

Statistics of production are rather disappointing for their lateness, especially in a time when one wants quickly to get a line on change. The latest figures of mill operation are for the month of July, so bear on a month half free operation and half under the Nira program. Figured on the basis of a 48-hour single shift, as in the past, the result for the month in New England was a general decrease, but of moderate proportions. The interesting feature is in the variations of decline. Not surprising, in view of the adjustments to the code, the decline was least in Massachusetts. As the State was under a rigid single-shift basis before, the code and a modification of the restriction by the legislature naturally point to a gain for Massachusetts, even though the industry at large may show a decline from its peaks.

Manufacturers in the leading cotton mill centers of New England were concerned over the processing tax, and are concerned over it, the same as the southern mills that advocated the hearing in September. As pointed out by Mr. Hood, the critical situation remains with us and it also remains that the tax issue is not dead because of the postponement of that hearing. At the time of the suggested hearing, it was a controversial matter with danger that the case could not be presented by the mills in a convincing manner. That will not be so, again, after the period which has been elapsed, if the trade seeks relief from the burden. It was claimed early in the past month, by the way, that the floor tax alone would practically equal the need of the Government for liquidating destroyed cotton.

Meantime, on the ultimate effect of the National Recovery program, Russell H. Leonard, treasurer of the Pepperell Manufacturing Co., Biddeford, Me., says: "Under the new plan I believe we may look forward to more orderly production, the spreading of employment, more equitable wage scales and a return of profitable operations so long absent."

What will be the effect of the new dispensation upon quality of cotton goods is a thing absorbing the trade. The early reaction has been that fine constructions will hold a relatively strong position. There is some disposition to believe that high-quality cottons will offer stronger competition for silk and rayon goods in dress lines. In this connection, it is significant that the president of the Silk Association of America declared that a discriminatory higher wage in his industry would divert much of its business to rayon and cotton lines.

What the Southern Mills Are Doing..

Mid-State Cloth Mills, Newton, N. C. recently installed a Charles B. Johnson five-cylinder rayon slasher, arranged for handling rayon on the cotton system. This was purchased through the Carolina Specialty Co., Charlotte, N. C.

Sherwood Tapestry Mill, Burlington, N. C.; Bibb Mfg. Co., Columbus, Ga.; and Spartan Mills, Spartanburg, S. C., are among those recently making installations of WAK pick counters on looms.

It is reported that 33 new twisters have been installed at the Clark Thread Co., Austell, Ga. Additional homes are now under construction, a larger cotton warehouse has been built, and larger transformers have been installed.

Standard Tytape Co., Asheboro, N. C., recently installed a Morton vertical beam and package dyeing and bleaching machine, sold through the Carolina Specialty Co., Charlotte, N. C.

Victory Mfg. Co., Fayetteville, N. C., has been acquired by the recently organized Faytex Mills, which was incorporated by R. L. Huffines, Jr., G. L. Pruden and McDonald Dixon. It is reported that new winding and warping equipment has been installed and that high-count carded and combed yarns, on cones, tubes, warps, skeins and beams, will be manufactured.

E. M. Holt Plaid Works, Burlington, N. C., recently purchased through Carolina Specialty Co., of Charlotte, several additional Sipp-Eastwood high-speed over-end redraw frames.

Chiquola Mfg. Co., Honea Path, S. C., have installed about 100 new Draper looms.

Blue Ridge Rayon Mills, Alta Vista, Va., recently purchased through Carolina Specialty Co., Charlotte, a Hermas shearing and rolling and sewing machine.

Lullwater Mfg. Co., Thomson, Ga., which has been closed for three years, is to resume operations at an early date under the management of W. L. Phillips, formerly of Birmingham, Ala. C. L. Upchurch is the owner of the property.

Glenn Raven Silk Mills, Altamahaw, N. C., has been formed to operate the Holt, Bank and Holt Mill; the plant is being equipped for weaving silk and rayon.

Operation of the former Belmont mill, near Burlington,

The Story of Cotton

This is the second of a series of advertisements telling the story of cotton from its earliest cultivation in India and Peru to present times.

II. SPANISH AMERICA

The fabled wealth of the new golcondas unearthed by the Spanish *conquistadors* of Mexico and Peru was counted in shimmering gold and silver by the rough captains of those times—Cortez, Pizarro, Alvarado, De Soto and the rest. But these brave, cruel, dauntless adventurers cast in a heroic mold were followed to the kingdom of the Incas and the Aztec empire by men more cunning in the reckoning of wealth. What Cortez or Pizarro would have spurned as insufficiently valuable, these later Spaniards found well worth the hazardous voyage to the motherland.

In the front rank of these new-world commodities were the cotton textiles of Mexico and Peru. Today they are museum pieces; yesterday they vied with the far-traveled muslins and calicoes of India in the markets of Spain's golden age.

They were native, these fine fabrics, to the Americas. Whence came the lore, the cunning, of the native spinners and weavers, no man can tell; that knowledge is lost in the mists of a great antiquity. Only one thing is certain: the textile arts of the New World have survived innumerable ages of Indian history. Mexico, Central America, Peru—to all of them the spindle and the loom were indigenous: the Inca and the Aztec civilizations found the textile arts of the native races they overran carried to a high point at the periods of their conquests; they only adapted a native handicraft and made it their own.

In Peru the textile crafts had reached a beautiful perfection. The cotton fabrics of the Peruvians "included every known construction as well as certain types impossible to produce on modern machine looms." Of particular fineness were the robes of the Inca nobles, spun and woven in convents, whose inhabitants the Spaniards compared to ancient Rome's vestal virgins. In Mexico, the Aztecs set a high value upon cotton textiles and Montezuma's tributary cities were required to furnish the Mexican capitals with thousands of yards of finely woven cotton cloth each year—one city alone was required to furnish 2000 decorated cotton blankets.

These native arts the Spaniards capitalized. Gradually they imposed their own decorative motifs upon native craftsmen, but the craftsmen *were* native, and the skill, the perfection of production, were native American contributions to an ever increasing use of that most adaptable of fabrics—cotton cloth.

ANDERSON, CLAYTON & CO.

HOUSTON, ATLANTA, NEW ORLEANS, BOSTON, LOS ANGELES, CHARLOTTE, LITTLE ROCK, OKLAHOMA CITY, NEW YORK, MOBILE, MEMPHIS

what's WRONG with this picture..

is RIGHT in this...

There's a right way to clean floors in a textile mill, and that is to do it a room at a time . . quickly . . thoroughly . . which means electrically, with modern machinery.

Mopping is not clean enough or fast enough.

With the *Finnell* Combination Scrubber and Vacuum Cleaner two men can do better work than twenty. They can get the dirt *off* and the floor *dry* before the bobbin boys with their trucks have a chance to track it up again.

This amazing *Finnell* is a two-in-one machine. It will cut down your overhead by keeping your mill *clean* under foot . . at less labor and time cost.

DEMONSTRATION FREE. We have representatives everywhere. There is one near you who can be at your mill whenever you say and give you a free demonstration. Write or wire *Finnell System, Inc.*, 1310 East Street, Elkhart, Indiana. Canadian Distributor: Dustbane Products, Ltd., 207 Sparks Street, Ottawa, Ontario.

FINNELL

EST. 1906

ELECTRIC FLOOR SCRUBBER--POLISHER

as a unit of the E. M. Holt Plaid Mills, Burlington, N. C., is planned.

Olympia plant of Pacific Mills, Columbia, S. C., has installed 100 Model X Draper looms with individual motor drive.

Riverside & Dan River Cotton Mills, Danville, Va., and the Tallassee Mills, Tallassee, Ala., have purchased "Twist Setter" machines for conditioning yarn from Bowers & Barksdale, Atlanta, Ga.

The Guillett system of overhauling is in use in overhauling the entire spinning of 62 frames at the Pilot Mills Co., Raleigh, N. C.

Hudson Silk Hosiery Co., Charlotte, N. C., are installing 17 full-fashioned hosiery machines and a system of air conditioning equipment.

Plant No. 8, Cannon Mills, China Grove, N. C., recently installed 36 Draper looms, according to report.

COMMENT ON THE COTTON MARKET

New Orleans, September 15th, 1933.

ALTHOUGH the indicated crop, as of September 1st. was 100,000 bales larger than the prospective crop as of August 1st—12,414,000 bales versus 14,314,000—the trend of the cotton market was upward the past month, Middling in New Orleans today compared with one month ago showing an advance of $3.25 per bale. During the period under review numerous developments were helpful to the market by encouraging support and trade buying to absorb hedge selling. Of such developments the activities of the government in the interest of the NRA, the providing of funds for credit expansion for the purpose of stimulating trade, making commercial credit easily available, were of much influence and importance. In addition there was a revival of gossip as to possible inflation, and as sterling exchange advanced considerably of late, the impression prevails that some sort of inflation may be resorted to in the not far distant future.

GOVERNMENT CROP ESTIMATE

As of September 1st.—This year		Last year
Indicated production, bales of 500 lbs. gross weight	12,414,000	13,002,000 (final)
Condition	67.5	56.6
Indicated abandonment after July 1st.	1.2%	1.7% (final)
Acreage left for harvest	30,036,000	35,939,000 (final)
Indicated yield per acre. lbs.	197.8	173.3 (final)
Ginned to September 1st, bales, counting round as half bales	1,394,220	865,160

Of the estimated acreage in cultivation on July 1st, which was 40,798,000 acres, 10,396,000 was or will be plowed up, and 366,000 were deducted for abandonment.

TOTAL AVERAGE RAINFALL IN TEXAS, IN INCHES

Year—	1933	1932	1931	1930	Normal
August	2.95	3.39	2.04	1.50	2.44
Nov. to Aug., inclusive	23.43	29.77	24.81	21.66	25.31

Substance of Washington's summary for week ended September 12th—"In the cotton belt temperatures averaged above normal. There was abundant sunshine, and precipitation was mostly of a local character, except for heavy rains in the eastern portions attending the tropical storm early in the week. In general this made for another favorable week for the cotton crop, except in rather restricted areas with heavy rains."

While the indicated crop showed a further slight increase during August, it points to much less than last year's world's consumption of American—12,414,000 bales versus 14,424,000. Since September 1st there was much rain in the interior, some storm damage in the Southeast, and reports of weevil increasing have been numerous, which may prevent any further increase in the growing crop, and the rains, where heavy, may have lowered the grade.

Season's Indicated World's Supply of American Cotton, as of September 1st.

Bales—	This season.	Last seaso
World's carry-over of American lint (Hester)	11,339,000	12,911,000
Indicated crop, if ginnings	12,100,000	12,710,000
Total, about	23,439,000	25,621,000

Foreign Cotton Crops

Recently Washington advised in part: "Present indications are that foreign cotton production in 1933-34 will probably be somewhat greater than in 1932-33, although it is still too early to be very definite about the size of the crop in some of the foreign countries."

British Board of Trade Report for the Month of August

Year—	1933	1932	1931
Exports of yarn, pounds	11,000,000	9,000,000	11,000,000
Exports of cloth, yards	149,000,000	181,000,000	144,000,000

CENSUS BUREAU REPORT FOR AUGUST

United States— Bales—	This season	Last season
August consumption, lint	588,570	404,497
Linters	83,271	48,440
Including linters	671,841	452,937
Mill stocks August 31st.	1,159,897	1,087,967
Stocks in public storage and warehouses, Aug. 31	5,785,579	6,569,196
Stocks in mills, public storage and warehouse, Aug. 31st.	6,945,476	7,657,163
Active spindles during August	25,884,704	22,045,060
Active spindles during July	25,540,504	20,646,966

So far as domestic consumption is concerned, Census returns for the first month of the new season, while not quite as large as for July, showed larger than for August of last season, which is a good beginning for the United States.

Of late there has been more activity in the cotton goods markets in New York where there has been a revival in the demand, with prices tending higher. Lately there was some falling off in the demand for spots in the South, probably due to the higher prices, but sales are increasing again. If spinners become convinced that the South will probably reduce the acreage further next spring, an urgent demand for spots may develop.

Exports from the United States are of good volume compared with thus far last season, since August 1st. 919,000 bales against 838,000. Likewise, compared with thus far last season, spinners of the world have taken more of American—since August 1st. 1,685,000 bales against 1,420,000.

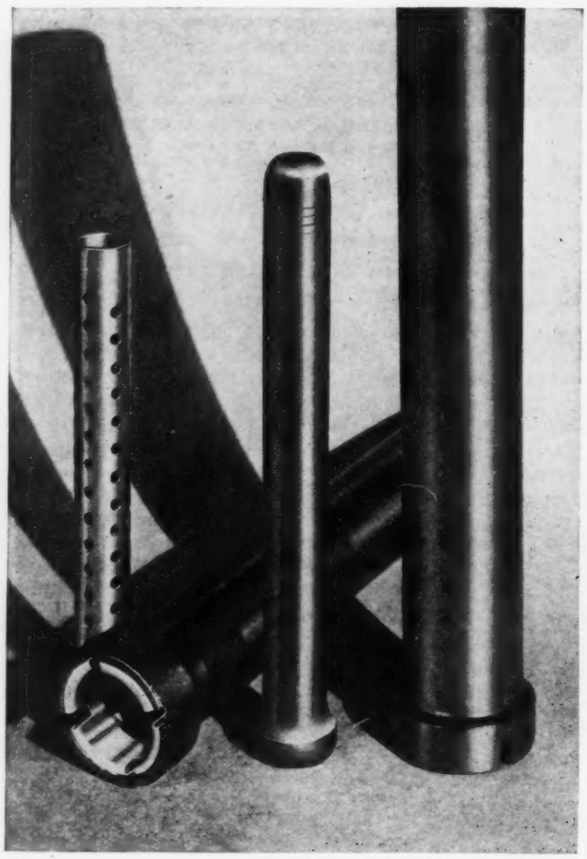
World's Visible Supply of Cotton Today

Bales—	This year	Last year
American	6,647,000	7,066,000
Of other kinds	1,584,000	1,812,000
Of all kinds	8,231,000	8,878,000

At the moment federal credit inflation efforts are now progressing on four well defined fronts. Recently a billion dollars was made available for loans to industry through banks and trust and mortgage companies. The Federal Reserve board continues its policy of increasing banks reserve deposits through purchases of government securities. Treasury officials are co-ordinating efforts to have every bank, not hopelessly insolvent, on a sound basis by January 1. The public works administration is pressing for faster expenditure of its $3,000,000,000 fund as a means of putting more money into industrial and trade channels. In addition to these constructive features, Chairman Harrison, of the Senate Finance-committee, indicated his belief, it is said, that some monetary inflation may be undertaken at an early date to help raise commodity prices.

Late press advices from Washington state: "Farm adjustment administration officials said yesterday the cotton program for 1934 and 1935 was to be issued soon and that there had been no changes in the fundamentals of the plan. As outlined by Secretary Wallace it includes acreage reduction to around 25,000,000 next year and a virtual guarantee of parity price to the grower on the amount of the past five year average which has been consumed in this country. It was said that demands from the South for price guarantees on this year's crop and reduction through gin control for next year had not changed the principles of the method the administration intends to use to raise prices to the farmer."

As to the future course of the market, it seems to be promising, for while ginnings were comparatively large to September 1st, and may continue heavy for a while, which may make for a large movement to market, and, perhaps, large hedging, sentiment appears to be more bullish than otherwise at present owing to talk of possible inflation, because of the activities of the government in the interest of higher prices and trade expansion, plus the agitation in the South for a smaller acreage of crop control next year. Therefore, chances seem to favor the constructive side of the market.



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and here's what mill operating executives say about

"Adolff" FIBRE CARDROOM BOBBINS

KNOWN THE WORLD OVER

ALL A&C PRODUCTS HAVE THIS MARK

"They will not split. They have a metal guard in the butt which prevents them from wearing out at that point. The butt will not frazzle out like that of a wooden bobbin, and for that reason is cleaner. We find the finish on these bobbins so hard that it will ruin a knife edge. For this reason there is practically no roving cut off these bobbins."

"They are the cleanest bobbins we ever had in the card room. We never have to clean them out. Moisture does not affect them. You will never find any of these fiber bobbins jumping up on the spindle. Oil does not affect them."

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In 1933, with direct motor drives, variable speed control, hinged-girt conveyors with traveling side guards, increased insulation of panels and framework, leak-free steam heaters, intensified air-circulation, all-metal feed, and improved details throughout, the Proctor Dryer is higher than ever above comparison. It best meets today's needs of maximum hourly output, minimum cost of drying operation, dependability that means uninterrupted working schedules.

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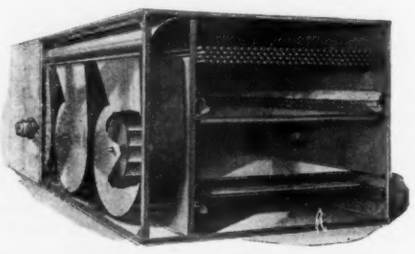

PROCTOR & SCHWARTZ, INC
PHILADELPHIA

TIMELY NEWS ITEMS WITH A TEXTILE SLANT . . . .

Harris-Cole Company Now Manufacturing Loom Reeds

The Harris-Cole Co., located at 207 Walker St., Atlanta, Ga., was organized in May 1933 for the manufacture of all kinds of loom reeds, and the company will specialize on a product known as Spase-Rite reeds, designed to provide the proper air space between the dents to take care of any fabric, it is explained. The plant is equipped with new machinery of the latest type, and is in production for meeting mill requirements.

A. W. Harris

Raymond Cole

R. D. Cole III

The company was organized by Arthur W. Harris, who is president; R. D. Cole III, vice-president; and Raymond T. Cole, treasurer. Mr. Harris has been associated with the southern textile field for many years, and has had an extensive experience in the manufacture of reeds; he is widely known throughout the southern textile industry. R. D. Cole III and Raymond T. Cole, formerly of Newnan, Ga., are graduates of the Georgia School of Technology, and have many friends among the textile mills.

:: :: ::

Evening School Diploma Issued to L. A. Ramsey

C. M. Wilson, state supervisor of vocational industrial education in South Carolina, recently announced that L. A. Ramsey, of Whitney, S. C., had been awarded the first set of three standard cotton textile evening school diplomas issued in the state under the state boards for vocational education in the southern cotton manufacturing states—including Virginia, North and South Carolina, Georgia, Tennessee, Alabama, Mississippi, Arkansas and Texas. Only one other set of this kind had been awarded in the United States, Mr. Wilson stated, this going to a man in Alabama.

The diplomas for spinning and weaving were formally presented to Mr. Ramsey at the close of the night school's textile classes in the early spring. The diplomas for carding were awarded at the Frank Evans High School in Spartanburg in 1932.

The records show that Mr. Ramsey began his study of textiles in the evening textile classes of the Whitney Mfg. Co. in 1920. To receive such a set of diplomas requires a student to complete 24 separate units of the standard cotton textile evening school course of study, including not only theoretical instructions necessary in cotton manufacturing, but also skill in fixing and maintaining the various types of machines used. This training, it is explained, is practically equivalent to a standard college course in textiles.

:: :: ::

Greene Forms Textile Engineering and Management Company

Edwin Farnham Greene, for 20 years the chief executive of Pacific Mills, and for 25 years the executive head of Lockwood, Greene & Co., is now president of the Enderley Corporation, a new textile engineering and management company, with headquarters at 48 Wall St., New York City. The program of the Enderley Corp. is to act as contact between the textile industry and investment bankers; to furnish reports and advice on engineering and management problems; to act as broker in textile securities and mill properties; to aid in securing capital for reorganization, in effecting consolidations, etc., and furnish the initial capital often necessary to start meritorious enterprises.

In announcing the formation of the new corporation, Mr. Greene pointed out that, though one of the largest in the country, the textile industry in contrast with other industries is broken up into almost innumerable units and small groups, and, because of their number and small size, and because their stocks are often closely held, very little is generally known about many of the individual companies; therefore, investors in textile securities are often without definite information about their particular investments and the general situation of the industry. Mr. Green states that under the recovery administration, the industry, which has been through a period of re-adjustment and has scrapped a substantial percentage of its productive capacity, will have an important part in the return of prosperity to the country; and "for the purpose of performing services to the textile industry and to textile security holders, the Enderley Corp. has been organized."

:: :: ::

Clinton Changes Corporate Name

Announcement is made that a change in the corporation name of Clinton Corn Syrup Refining Company, Clinton, Iowa, has been made to Clinton Company, and the name of the subsidiary changed to Clinton Sales Co., Inc. The company states that the former name was not fully descriptive of its various products.

:: :: ::

Bulletin on Anti-Friction Bearings

A bulletin on anti-friction bearings as applied to spinning, drawing and twisting frames has been issued by Hyatt Roller Bearing Co., Box 476, Newark, N. J., and copies are available from them. The bulletin shows with detailed drawings how a simplified design of roller bearing application is made to replace plain babbit bearings, and cites the advantages gained.

:: :: ::

Data Book on Valves

Jenkins Bros., 80 White St., New York City, have issued Catalog No. 23 giving information in 264 pages on 400 Jenkins valves. All features of design and construction are clearly described. The last section of the book contains engineering data for use with valves.

:: :: ::

New Colors

Geigy Co., Inc., 89-91 Barclay St., New York City, have issued descriptive pamphlets covering Diphenyl Fast Scarlet 4GSW; Diphenyl Fast Scarlet 4BSW; Erio Fast Orange GL; and Erio Anthracene Rubine B.

:: :: ::

Johnson Acquires Gast Line

The Johnson Corp., Three Rivers, Mich., has acquired the line of Gast air separators, aftercoolers, oil absorbers, etc. R. O. Monroe has become manager of sales. L. D. Goff, for several years sales and factory manager of Armstrong Machine Works, is president and general manager of the Johnson Corp. This company now manufactures Johnson rotary pressure joints for use in industry on steam, water, etc., and have other air and steam devices to be announced later.

NRA Wage Requirements
Make Cost Reduction Imperative

The above headline sticks out from the pages of every textile paper these days. For it is realized that increased operation will not result in improved profits unless mechanical costs are reduced.

NON-FLUID OIL keeps its place as the "Modern Lubricant for Textile Mill Machinery", because it has proven its cost reducing economy in 7 out of every 10 leading mills.

NON-FLUID OIL does not drip, leak or spatter like liquid oils so stays in bearings and off goods, providing more dependable lubrication and doing away with the loss from oil spot "seconds".

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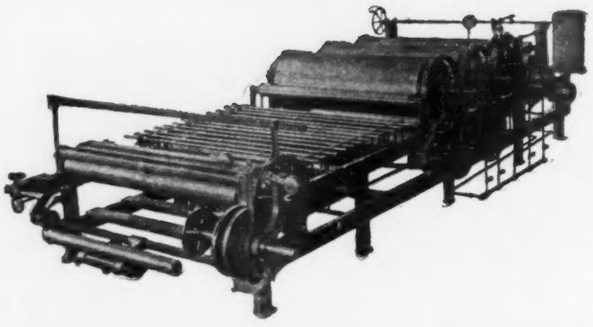
MODERN TEXTILE LUBRICANT

Better Lubrication at Less Cost per Month



SAVES $9000 A YEAR
—costs $1 a day!

USERS of Johnson Sizers are making net savings on sizing alone of as much as $9000 a year. Savings of $3000 to $6000 are common. Yet this machine costs only about $1 a day!

These amounts represent savings on sizing costs alone and are but a small part of the savings that are effected through fewer seconds, higher loom production and better quality finished fabrics.

THE multi-cylinders "knead" the warp and make it softer and more pliable. Ends are never harsh or baked.

The 3-roll quetsch makes possible a wet or dry nip—so that any type of warp of any quality and denier may be sized with perfect results. Warps may be totally immersed if desired.

Beams are wound in perfect alignment, and with even density.

EACH cylinder has its individual thermometer and temperature control. A small amount of heat may be applied to the warp on the first drying cylinder, then increased, and gradually tapered off—the ideal method. Stretch may be entirely eliminated or as much allowed as desired.

If you have 25 or more looms it will pay you to get complete details regarding Johnson silk and cotton system sizers.

More than 6 times as much rayon is sized on Johnson silk and cotton system sizers as on all other rayon sizers in the world combined.

CHARLES B. JOHNSON
PATERSON, N. J.

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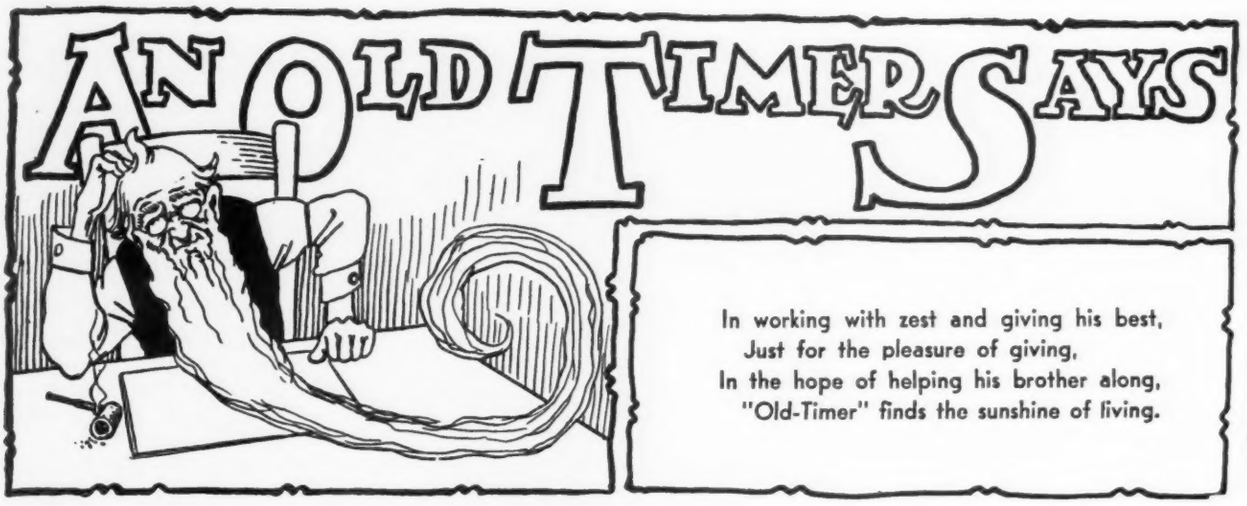

AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

The Story of Old Timer's Methods of Working and Management

Part Fifteen—Continued from September Issue

HERE Old-Timer explains to Jim a system of keeping records in graph or chart form that is most useful. It may be applied with convenience and value to almost any form of mill records and reports. Assistance will be given to any reader upon request in working out similar records for his plant . . . . . .

(Note: Since this series is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER's part of the conversation, and those in *italics* are JIM's part.)

Hey, OLD-TIMER. *What in the heck is that paper with all those crooked marks on it?*

That is a graphic chart, JIM. We record there each day the warps we are going to have out tomorrow. (The second hands or fixers look over the looms each afternoon and estimate the warps which will run out next day. These reports added together of course give us about the number of warps we must prepare —draw-in or tie-in, etc.—for tomorrow).

The warps in a weave room have a way of getting together for a big run-out sometimes, just like spinning frames or speeders will get together on creeling, and if you are not prepared for this run-out by having a good supply of warps, drawn-in, ready for looms, you are liable to have looms waiting on warps. That chart helps us to prevent that condition because by noticing the line you will see where it will run below normal for several days, then you know a run-out is coming and can prepare for it.

Many overseers and superintendents who have not been fortunate enough to have gone to college look at these charts and think they are complicated and difficult to understand, etc., but really they are so simple that any man who can read and write can easily be taught how to keep a graphic chart.

Now look at this chart of "Warps to Run Out" and see how simple it is.

The heavy black line across the chart and opposite 50 represents the average run-out of warps in

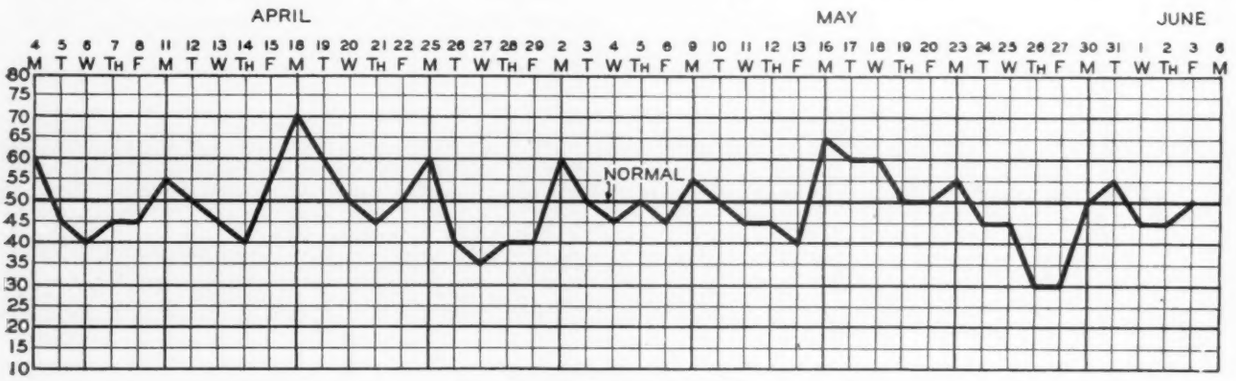
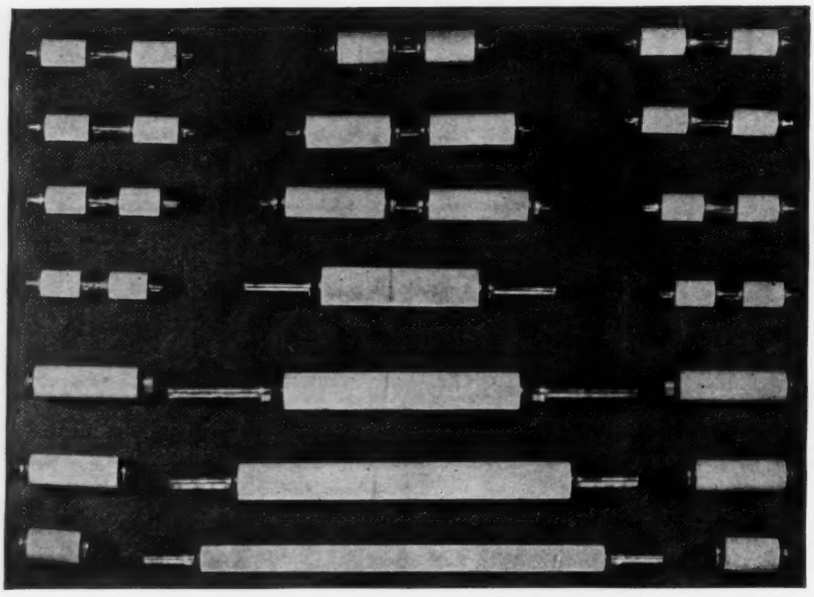


Chart on "Warps to Run Out"



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Roller Cloths of the correct cushion and uniformity.

Clear Cloths with thick strong nap that cannot pull out. Uniform length that clears rolls entirely of short fibre.

Slasher Cloths with enough cushion and porosity to thoroughly force sizing into yarn.

Philadelphia specializes in Stamping Blankets, Palmer and Sanforizing Blankets for Finishing, and Lapping Cloths for Printing.

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IN MANY TEXTILE MACHINES

Builders of world-known textile machinery have standardized on them for over 15 years.
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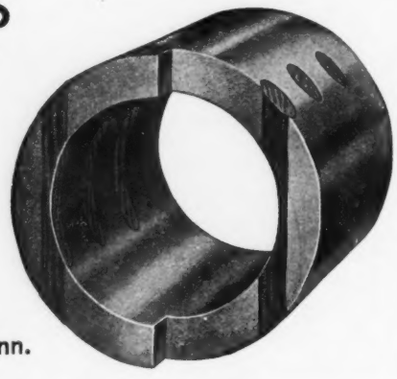
They require the oiler's attention but a few times a year. The insure every drop of oil reaching the desired spot—the bearing. Nothing but clean oil can reach the bearing surfaces.
And finally—
Moccasin Bushings are *guaranteed* to give the fullest satisfaction in your most *troublesome bearings.*
We have an interesting booklet that gives sound reasons for standardizing on Moccasin Bushings.



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SIZING FINISHING

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SEYCO SCIENTIFICALLY PREPARED TEXTILE CHEMICALS SEYCO

A CONCERN IS KNOWN BY THE CUSTOMERS IT KEEPS-

FINISHING SIZING

ATLANTA, GA.

this weave room. By either keeping a record of your warps out or by calculation you can determine about what your average run-out is or should be.

For example, if your cut of cloth is 62½ yards and you are putting 16 cuts on a loom beam on a certain style of goods then 62.5 yards x 16 cuts=1000 yards on beam. (There are more yards of yarn than this on the loom beam if your cut of cloth is 62½ yards, but you need not consider the contraction in weaving if you know that the 16 cuts on the beam give you 16 cuts of cloth each 62½ yards long).

1000 yards÷33.3 prod. per 10 hours of loom=30 days that loom beam will run.

1500 looms in room÷30 days per beam=50 beams run out per day of 10 hours.

Now after determining the average beams or warps you will have to run out per day, make a heavy line across your chart (ruled paper of most any kind and for any purpose may be obtained by addressing COTTON) and let that be your base line. At once you can see that any part of your record which is above the base line will mean that you will have more than your average number of warps out that day and any part of the record which is under the base line will be the reverse of course.

After placing the figure, in this case 50, on the chart which represents your average run-out, then simply let one line above the base line be 55 and one line below the base line be 45 and proceed above and below with graduating the figures until you have reached the extreme on both sides of the base line, that is, let the figures run up to an amount that will cover your greatest run-out and below to the smallest run-out you have.

Next put the dates along the top of your chart and you are ready to start recording. On this chart you will note there are no Saturdays. This is explained by the fact that they do not make out a report on Saturday, as they only run five hours, but as the second hands look over the room on Fridays they estimate the warp which will run out Monday and that is why Mondays on the chart always, or at least in the majority of cases, show more warps out than any other day when really part of those warps ran out Saturday. However, this discrepancy seems to add, rather than detract, from the value of the record because the extreme peaks seem to accentuate the p'cture, so to speak. (Editor's Note: This was obviously written before the application of the cotton-textile code).

After such a chart has run for several months you can tell at a glance any time just what is going to happen concerning your warp run-out in the next few days or next week.

Please note the period from April 5th to 18th. On April 5th there were 45 warps-out, April 6th, 40, April 7th, 45, April 8th, 40. Here are four days that the average is under 50. On April 11th it goes up to 55, which is only 5 over the average and as the 11th is Monday, the run-out is really under the average, because, as explained in the foregoing, Monday is really Monday and Saturday. Then you will notice that Tuesday, Wednesday and Thursday are all under the base line, so look out, Mr. Man who is responsible for drawing-in or tieing-in, you are going to have looms waiting on warps if you haven't got sufficient spare harness and reeds to prepare enough drawn-in warps to be ready for the storm.

Here she blows! Monday, the 18th, 70 warps out. Of course you didn't have to have 70 warps drawn-in, because you will be drawing-in during the day as they are running out, but, JIM, if you have followed the chart along with us you can begin to see how interesting it is and also how simple it is. You can clearly see the dot at each turning point of the line. In other words, when you get your report on the afternoon of June 3rd, which tells you that 65 warps are going to run out Monday, June 6th, you simply count from your base line, which is 50, next line 55, next line 60, next line 65, and make a small dot on line 65. Now take a rule and draw a line from June 3rd dot to June 6th dot and you have extended the line. Do you understand, JIM?

Darned if that isn't easy, OLD-TIMER. *I have been seeing those things in the magazines and papers which they said would tell you about markets and everything, but I never tried to understand one of the blamed things, and just look what I have missed all these years. And by Heck, I am going to make me one to show my production and my cost and my supplies all on the same chart.*

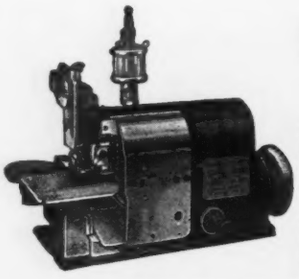
Sure, JIM, come on out here in the weave room and look at the one we have. You see we have got a line to represent our seconds as well as the things you have just mentioned. You should also have a line to record the hours run per week and number of looms operated, because as explained before, you must have *loom hours* in order to keep any kind of correct report of supplies, production, etc.

Look at this line, JIM, which shows the shuttles we use per week. You see at the end of 1930 this figure 1,200 is where we added up all the shuttles we used in the 49 weeks we ran that year, and as we ran 60 hours per week (noon run one hour per day), then 60x49=2,940 hours run for the year, and this line shows that we ran 1,500 looms per day. Then, 2,940x1,500=4,410,000 loom hours for the year. 4,410,000 loom hours divided by 1,200 will give 3,675 hours as the life of a shuttle.

As most people speak of the life of a shuttle as so many months or years, you can easily take the 3,675 hours which represents the life of a shuttle and reduce it to months or years by simply dividing it by the hours in a month or a year. Example: We ran 60 hours per week (including noon run), then 3,675÷60=62 weeks and 45 hours, or practically 63 weeks, or, if you wish to express the life of these shuttles in years you will have 63 weeks÷52 weeks in a year, or 1.21 or practically 1¼ years.

Doggone, OLD-TIMER, *that is about the best and most simple way I have ever seen to keep records, and look at that line representing your shuttles in* 1929. *It doesn't look so good. How do you explain that your shuttles did not last a year?*

Well, JIM, we put some looms on drills and it looked like every time a thread would break between the reed and the harness it would throw the shuttle out and break it. That notation there in March of



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HIGH SPEED TRIMMING AND OVER-SEAMING OVEREDGING AND SHELL STITCH MACHINES

FOR USE IN THE FABRICATION OF KNITTED AND WOVEN GOODS OF ALL KINDS.

—200 VARIETIES FOR 200 PURPOSES—

WRITE FOR DETAILS REGARDING

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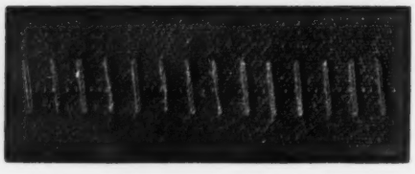
PRODUCING A FLAT BUTTED SEAM (AS ILLUSTRATED BELOW) TO FACILITATE SUBSEQUENT PROCESSING OF TEXTILES



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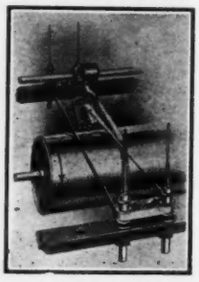

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you can cut costs to the minimum and save valuable time on delivery by shooting your old cylinder heads to us. Our rebuilding work means practically a new spinning cylinder for you at a great saving and it will be back in your plant long before you can secure a new one from a distant manufacturer. We are specialists and have a full stock of parts. Ask for prices and full information today and be prepared for saving on spinning cylinder replacement costs.

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Manufacturers and Rebuilders of Spinning Cylinders, Card Screens and Drying Cans.

GUILLET'S (I.T.) ROLLER NECK

Perfect length control and no creeping or packing of stands
Inter-changeable case hardened neck, concentric, and perfectly straight through entire length of roll.
Perfectly centered
No strain on threads, quickly and easily installed No numbering
Entire strain on 3" ground taper like shank of roller tail stock, auto axle, etc. Contact surface complete at all points
Greater strength no swelling of fast boss or loose necks

Only way to permanently overcome loose roller necks and stop that uneven yarn and excessive end breakage.

Over 50,000 now in use

DIXIE SPINDLE & FLYER CO., INC.

Charlotte, N. C.

1929 explains why the shuttle record went so high.

That is the good of the chart, JEM, you can look at practically six year's record here and see it all at a glance, while you would have to look over 30 or 40 sheets of paper to get the same information, and then not have a picture of everything that happened over that long period like you have here on this chart.

A chart will always show you the "peaks" and the "lows" so much better than looking at the usual reports. The "peaks" and the "lows" show you the radical variations from the usual or regular operation of your machinery, or whatever you are charting. You can easily determine whether "peaks" and "lows" come in any kind of sequence or not and note whether you can anticipate those conditions. You know, Jim, so many overseers and superintendents can run a job very well as long as there are no "peaks" or "lows". That is the time when a man's ability shows up. Engineers in laying out power plants always allow for a "peak" load. If you have a mill requiring 3,000-hp. to pull it the engineers would make a terrible mistake to put in a 3,000-hp. engine, because the first extremely cold Monday morning you had to start up you could not pull all the machinery. It takes much more power to pull bearings with cold oil than it does to pull the same machinery load after all bearings are warmed up. Even if the temperature of the room is kept up to 70, or even 80 degrees it will still take more power to start up in cold weather.

Well, the same reasoning applies to overseers and superintendents. If a man can only pull his normal load, that is, run his job well when things are going along in a normal way, he will surely fall down when the peak load, JIM, that will please your boss, and, the peak load, Jim, that will please your boss, and, incidentally, will also give you more confidence in yourself.

(The system of charting, as described here by Old-Timer on Warps Out, and production, cost, seconds, etc., has been applied to many other phases of mill work, and later Old-Timer may devote an article to a more detailed description of some of them. Meanwhile, he offers to assist any reader who requests it in working out a chart for any particular purpose.

In the next installment, Old-Timer and Jim go back to their record books in discussing the life of supplies, and inspecting looms.—The Editor.)

LOOM LUBRICATION SCHEDULE

Loom Parts Oiled Four Times Weekly on 80 Hour Schedule:

Pick cams and balls
Pick cam shaft bearings
Crankshaft bearings
Rocker shaft bearings
Loose pulley

Loom Parts Oiled Twice a Week on 80 Hour Schedule and When Warp is Out:

Crank arms
Camshaft bearings
Auxiliary shaft bearings
Idler gear and stud
Treadle rolls and pin
Filling cam followers
Protection rod bearings
Take-up roll bearings
Lacy top

Loom Parts Oiled Once Each Week on 80 Hour Schedule:

Crank and cam shaft gears
Parallel tongue
Thread cutters
Temple bars
Shuttle feeler parts
Fork slide
Starting rod bearings
Take up parts
Spring shaft parts
Let-off parts
Beam and whip-roll bearings
Harness roll bearings
Stop motion parts
Parallel stud and spring
Feed and hold-back pawls
Bobbin support

Bobbin discs greased twice yearly

Report of Slashing-Weaving Discussion

(Continued from page 97)

the following:

Twice weekly: crankshaft, motor bearings, pick cams, and cam shafts. Warp out: whip roll, rocker shaft, other cams.

The other report will be found in full elsewhere on this page.

"Slack-Sided" Cloth

The next question asked, *"How do you prevent 'slack side" cloth?"*

C. K. Cobb stated that when the slackness is on the same side of the cloth, it is a good practice to go back to the slasher and also to the warper, to check for any high or low side on the warp, and that also the cloth roll block might be worn on the loom. Several men stated that when this trouble develops the best suggestion is to check over the loom adjustments carefully from beam lock to sand roll.

Mr. Harvey brought out that if this trouble develops usually on the battery end of the loom, it might be due largely to the fact that on that end of the loom there is more loose filling, when the shuttle is put in the box. Mr. Lollis brought out that the takeup journal on the battery end of the loom will wear more than on the other side, also.

E. H. Rogers brought out a problem of having cloth which would wind up on the roll on the loom in a telescoped condition, that is, it would slide to one side or the other, leaving one end looking like a funnel, and the other end concave. He reported in answer to questions that this was not peculiar to any particular looms, and that the troubles on any one loom would not necessarily show up by the cloth slipping or sliding in one direction.

Charles H. Warren of the Draper Corporation offered the suggestion that a larger cloth roll, say about 2-inch diameter, might be used to remedy some of this difficulty. Mr. Elliott suggested a paper roll sanded on the outside. J. W. Trigg stated that he had once gone on a job as overseer of weaving where three particular looms were giving this trouble, and that he remedied it by changing the fillet on the sand roll. That a lot of times this difficulty came from the way in which the fillet was cut in applying it to the roll.

J. I. Alford, assistant superintendent, Covington (Ga.) Mills, suggested that knurling the cloth roll, after increasing the diameter to about 1¼-inch, had solved this problem on occasion. He explained, however, that in doing this it was necessary to take the cloth to the cloth room on this roll, as a knurled roll could not be slipped out of the cloth.

The next question stated, "Give experience on use and utility of doup harness." However, it developed that very few of the men present had experience on this type of harness which is used for leno and marquisette work, and while those present who had experience were ready to answer any specific question, it was difficult to develop any discussion on the basis

of the original question.

The final subject discussed was presented in the next question: *"Give your experience with the new type of conditioning machine for setting twist in filling yarn."*

Filling Conditioning Machines

Several men reported experience with this, all of them apparently being well pleased with the operation of this equipment, which is a machine through which the filling bobbins from the spinning room are conveyed on an apron; a specially prepared conditioning solution, mixed with water, being sprayed on the yarn; the conditioned yarn then passing rapidly through the machine ready for weaving. The purpose of the conditioning being to set the twist in the yarn, with some regain also being secured.

V. J. Thompson of Manchester was the first to report experience with this type of conditioning machine. Mr. Thompson stated that he has one of the new machines with which he is putting in from 7 to 15 per cent regain and that it sets the twist in his filling very satisfactorily. He said his machine is equipped with three consecutive aprons, the bobbins dropping from one to the other in succession and being turned over in the process. It takes about 30 seconds for the filling to pass through the machine and it is then ready for the loom, he said. He uses a one per cent of the conditioning solution, that is one gallon of the solution to 100 gallons of water. He runs 10s to 20s warp. He answered a question from Mr. Elliott by saying that apparently the regain put in the filling in this manner stayed about as long as water applied would remain.

Floyd Childs of Lanett reported that when installing one of these new machines at that plant it had replaced three of the steaming machines formerly used.

N. S. Turner of Covington stated that they use one of the new type of machines and that at first they had some difficulty from soft and splintered bobbins as the result of the conditioning solution but that they are now using a special oil-soaked bobbin and do not have this trouble.

Walter Dillard, Jr., reported satisfactory results with the machine, but stated that when his machine is broken down he simply sprays or sprinkles the conditioning solution over the boxes of filling and gets good results.

E. Lehmann of Langdale stated that they get much better results with the use of this machine, and less kinking, than by the ordinary steaming method.

R. D. Harvey of Lindale submitted a full report on his experience with this type of conditioning as follows:

"We have two of these machines that we made ourselves, and are using a conditioning fluid that costs us $3.00 per gallon. We use one gallon of this penetrant to 100 gallons of water.

"The cost of conditioning 1,000 pounds of yarn with 3 per cent regain is approximately 16 cents. There is a machine on the market that is quite an improvement over our machines in that you can, I understand, get a regain of from 2 to 20 per cent.

READERS of COTTON are, as always, welcome to comment for the "How Other Men Manage" department of this magazine, on any of the subjects discussed at the Atlanta meeting and reported here. Your experience and opinion on any of the questions will be considered carefully, for publication in an early issue. Let us hear from you.—The Editor . . . . . .

"We have used both enameled bobbins with rust proof rings and plain varnished bobbins with plain rings with our conditioning machine and have never noticed any of the bobbins being damaged by this machine.

"Our spinning is on the third floor and weaving on the second. We use chutes from the spinning room to the weave room, and empty the quills on a platform that is connected to the conditioning machine. Each filling hauler conditions his own filling, and we do not use any extra help to operate the machine.

"We put through approximately 1,000 pounds of filling per hour for each machine; but the machine is in operation less than half the time. If, by using more machines, you can cut out one operator to each machine, we feel that the saving in labor will more than offset the cost of the machine."

This concluded the discussion. As previously stated, the officers decided not to have an afternoon session. After the morning session which was adjourned well before one o'clock, some of the delegates visited the textile school at Georgia Tech and later all met at the Tech mess hall for a Dutch luncheon, following which the meeting was adjourned. The next meeting of the organization to discuss carding and spinning subjects, will be held at Tech in March, 1934.

A Problem of Bow in Cloth.

EDITOR COTTON:

Replying to your inquirer who states, "I am a finisher on wet-finish goods such as shirting, gingham, handkerchief cloth, etc., and I am having some trouble with a bow in the handkerchief cloth. This bow comes from the loom. Can this bow be prevented on the loom, and if so, how? I am enclosing a small piece of these goods from the loom showing the bow to which I refer."

The bow in this sample of cloth is only slightly more than normal. When it was measured and compared with other handkerchief cloths, we found that the bow was somewhat above normal but not to a marked degree.

It is practically impossible to get all of the bow out of handkerchief cloth. This applies to many other types of fabric as well. It is possible to guard carefully against some causes that tend to increase the bow.

The inquirer states, "this bow comes from the loom." It might come from the loom but still be caused by other processes than weaving. The bow in the cloth is due to the tension being different near the selvages from the tension in the center of the

cloth. Many things may be found to cause this difference in tension. Some places to watch in order to keep the bow to a minimum are outlined below.

At the warper the section beams may be a little wider than the warper cylinder and allow the yarn at the head of the beam to fill up at a different rate from the body which is kept pressed to an even height. There are some devices available which are made to run up against the head of the section beam and keep the selvage ends pressed down so that the completed beam will not be too high at the selvages. These presses are not expensive, and are worth a great deal in minimizing selvage troubles on the section beams.

The warp might not be laid even in the warper comb. The comb might be adjusted to bring the ends too far from the beam head on one side. A crooked section beam head, or spindle, might add to the trouble.

At the slasher, the creel might not be properly in line with the size box, or the size box might not be properly aligned with the cylinders. A section beam might be pushed too far to one side and out of line with the beams in front and behind it. This will cause the ends to roll as the beam is unwound. A cylinder might be bulged on one side. The immersion roll might not be level. Sometimes a slasher tender raises the immersion roll too high and causes one side of the roll to slip in the rack and get lower than the other side.

At the front of the slasher the loom beam head might be crooked or the press roll might not be functioning properly. Sometimes a piece of pipe is used as press roll and this does not fit up against the head of the beam, thus allowing the yarn to pile up against the head. In case a press roll is used that has a spring top head that is designed to expand and fill all of the space between the beam heads, the spring is liable to stick and not function properly.

At the loom the fillet on the take-up roll should be watched to see that it does not hold better for one portion of the cloth than another. The hanging of the harness, especially at the selvages, should be watched and kept level. The pitman arms should be of equal length. The whip roll and sand roll should be kept level.

It will often be noticed that there is less bow in the cloth made from full loom beam than that made later when the beam is not so full. This would indicate that high and low selvages on the loom beam have a lot to do with the bow in the cloth. It is the opinion of the writer that uneven tension at the warper and loom beams have as much to do with the bow in the cloth as do defective settings at the loom.

It is understood that even with a perfect loom beam and perfect loom settings there would still be some bow in the cloth. The pull of the filling on the selvages as the cloth is woven naturally causes the sley of the cloth to be more dense at the sides than in the center. This change of sley has a tendency to change the take-up in the warp and pull the ends near the selvages to a different tension from that in the center of the warp.

CONTRIBUTOR NO. 6255.

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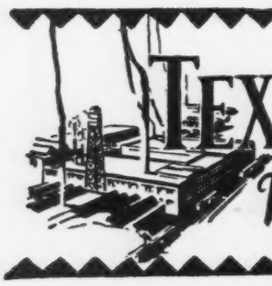

TEXTILE BOOKLETS *Worth Writing For!*

The booklets or catalogs briefly mentioned below may be obtained by any readers of COTTON who will write to the Company issuing them or to COTTON, Grant Bldg., Atlanta, Ga.

95. Onyx Processing and Finishing Compound Catalog — A thirty-two page booklet listing and describing entire line of processing and finishing compounds, covering every process on all types of fabric. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

97. Suggestions For The Modern Silk and Rayon Throwster — describing the various uses for Laurel Brand Products and giving valuable suggestions in silk-soaking, degumming, dyeing, sizing and finishing. Laurel Soap Mfg. Co., Inc., Tiogo, Thompson & Almond Sts., Philadelphia, Pa.

101. Bulletin No. 169-1, Recording Thermometers. 48 page booklet describing and illustrating how the installation of proper instruments will result in worth-while savings. Foxboro Co., Foxboro, Mass.

106. Cotton System Warp Sizing on Multiple Cylinder Machines—a folder showing the advantages of this type of machine in making warps of acetate and other synthetic yarns and spun silk — Charles B. Johnson, Paterson, N. J.

107. Complete Information on Alemite Lubrication. Showing how costs can be reduced through proper lubrication. Alemite Corp., 1828 Diversey Blvd., Chicago, Ill.

108. Thickening Materials for Textile Printing—discussing the more important materials and methods employed in the preparation of color thickenings so that it may be properly and economically transferred to the cloth in textile printing. Stein, Hall & Co., Inc., 285 Madison Ave., New York City, N. Y.

110. 3-In-One for Industrial Uses—showing the many industrial uses and advantages of this oil. Three-In-One Oil Co., 70 Varick St., New York, N. Y.

112. Belger Long Draft — describing "Elastix" Rolls with which drafts from 16 to 17 on carded and 20 to 22 on combed stock can be achieved without changing the spinning frame. The Belger Co., 36 Pleasant St., Watertown, Mass.
spinning room. The Belger Co., 36 Pleasant St., Watertown, Mass.

114. Denman Parts for All Makes of Looms—showing drawings and dimensions of Denman pickers, hold-ups, bumpers, and bunters made of fabric and vulcanized rubber. Denman Tire & Rubber Co., Warren, Ohio.

115. How to Cut Cloth Room Costs with Automatic Picking Machines and Improved Inspecting Machines—Hermas Machine Company, Warburton Ave., Hawthorne, N. J.

116. Arcy—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch, and its many advantages. Drake Corporation, Norfolk, Va.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Roller Bearing Co., P. O. Box 476, Newark, N. J.

118. Cotton Picking, Opening and Cleaning Machinery, Cards, Combers, Roving, Drawing, Spinning, Twisting, Rings, Worsted Machinery and Woolen Machinery — Pamphlets are issued on each of the individual machines. In writing indicate special pamphlets desired. Whitin Machine Works, Whitinsville, Mass.

119. The World's Finest Sewing Machines—a condensed catalog giving details of the various Willcox & Gibbs sewing machines. Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York, N. Y.

2. Pepperell Equipment—10 page illustrated booklet showing High Speed Warping from cones as adopted by Pepperell Manufacturing Company after thorough experiments, installation and product photographs. Issued by Universal Winding Company, Boston, Mass.

4. New Methods of Opening Cotton, also "Brown" Automatic Mixing and Cleaning Distributor — Illustrated booklets showing advantages of Centrif-Air Cotton Cleaning System. Pamphlets also on better picking and carding and pneumatic trunk line cleaner. Issued by Centrif-Air Machine Company, Atlanta, Ga.

10. Leathers, Textile—Booklet No. 101, 48 pages. Illustrated. Showing "Bondaron" Check Straps—Lug Straps—Harness Straps—Pickers—Belting, both round and flat, etc. Horsepower tables and other interesting information. By Charles Bond Company, 617 Arch Street, Philadelphia, Pa.

11. Whitinsville Rings—16 page illustrated booklet, describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co. Whitinsville Mass.

15. The Powers System of Thermostatic Control — "Slasher Room is Bottle-Neck of Textile Mill." 18 page illustrated booklet showing importance of proper treatment of cloth in slasher room and advantages of Thermostat over hand control. Also room temperature control illustrations. Issued by Powers Regulator Co. 2739 Greenview Ave., Chicago, Ill.

21. Warp Sizing and Composition of Cotton—Folder containing reprints of articles carried by textile publications of interest to progressive mill superintendents. By Seydel-Wooley Co., 748 Rice St., Atlanta, Ga.

23. Practice of Rayon Sizing in American Mills, Raygomm, Lakoe Gum—Three booklets on products for sizing and finishing rayon and other textiles, presented by Stein Hall & Co., Inc., 285 Madison Ave., New York, N. Y.

25. "Lupogum" and "Monopole Oil"—Two booklets on textile sizing and finishing products. Jacques Wolf & Company, Passaic, N. J.

28. Akron Belting—Practical Rules and general information for users of belting with belting catalog. By Akron Belting Co., Akron, Ohio.

29. Continuous Card Stripper—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shops. 147 Milk St., Boston, Mass.

30. Lubrication of Textile Machinery—32 pages, illustrated. Data covering the economical lubrication of all textile machines. New York and New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

38. Sleaziness in Full Fashioned Knitting—Illustrated survey with samples of fabric showing causes of sleaziness and methods to be employed in eliminating it.—By Textile Machine Works, Reading Pa. (This company also issues parts catalog for Reading full fashioned machine with general information on subject of full fashioned knitting.)

55. Interpretation of Analysis for the Layman—An eight page booklet explaining what the various terms used in fatty oil and sulfonated oil analysis mean, enabling the ordinary textile man without chemical education to interpret the various chemical analyses. National Oil Products Co., Harrison, N. J.

58. Trichlorethylene, Its Properties and Uses—a forty page booklet showing the properties and uses of Tri, with many valuable suggestions regarding its applications in dry-cleaning, spotting out, scouring textiles, etc. R. & H. Chemicals Dept., E. I. duPont de Nemours & Co., Wilmington, Del.

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan Inc., Passaic, N. J.

63. S-W Paint Standardization Plan—valuable booklet telling how protective coatings can effect economies in plant operation and maintenance, describing how each surface is finished to best meet its specific needs, giving ideal lighting and sanitary conditions and economies in increased production. Sherwin-Williams Co., 601 Canal Rd., Cleveland, Ohio.

64. Efficiency and Performance of SKF Roller Bearing Spindles — A twelve page booklet showing the advantages in power consumption, increased production, savings in lubrication, increased yarn breakage strength to be secured through roller bearing spindles. SKF Industries, Inc., 40 East 34th St., New York, N. Y.

65. Why Cooper Hewitt Light is Better Than Daylight — A 16 page booklet explaining in detail the importance of good lighting and the necessity of proper quality as well as proper quantity of light. General Elec. Vapor Lamp Co., Hoboken, N. J.

66. Dronsfield's Patent Portable Auto-Feed Needle Point Grinder No. 176, describing a new departure in card grinding—John Hetherington & Sons, Inc., 250 Devonshire St., Boston, Mass.

69. Monel Metal Equipment for the Textile Industry—A 50-page buyer's guide and catalog with more than 100 illustrations of various items of monel metal dyehouse equipment. International Nickel Company, Inc., 67 Wall St., New York, N. Y.

70. Fafnir Ball Bearings for One-Process Pickers—outlining the advantages of ball bearings in guaranteeing smooth accurate motion particularly on eveners, as well as uninterrupted production, ease of operation and cleanliness of bearing units throughout the one-process pickers. Fafnir Bearing Company, New Britain, Conn.

72. The Merrow Butted Seam—A 16-page booklet defining and illustrating the Butted seam, describing its properties and outlining some of the advantages to be gained by its use in textile fabrics. The Merrow Machine Co., Hartford, Conn.

73. New Reeves Catalog No. 99—A treatise on efficiency speed control—including valuable information of special importance to textile industry men and production executives outlining advanced methods of speed regulation. Reeves Pulley Company, Columbus, Indiana.

75. The Facts About Armstrong's Seamless Cork Cots — A helpful book containing plain facts, cost studies based on actual mill records, expert analysis, complete details on the advantages of Armstrong's Seamless Cork Cots. Armstrong Cork & Insulation Co., 923 Arch Street, Lancaster, Pa.

78. Booklet L 1289 A—Loom Motors and Control—giving details of the low installation, operating and maintenance cost of Westinghouse Loom Motors. Westinghouse Electric & Manufacturing Company, Room 2 N, East Pittsburgh, Pa.

88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

90. Atwood Booklet. Describing Atwood Winders, twisters, wire swifts, and various types of feed rolls—useful to throwsters interested in learning the principal features of various Atwood machines. Atwood Machine Co., Stonington, Conn.

92. Silicates of Soda—A review of the properties of silicates of soda and their various uses. Philadelphia Quartz Co., 121 S. Third St., Philadelphia, Pa.

KNITTING SECTION

The market for

FINE SEAMLESS HOSE IS A LIVELY ONE . . . . .

There is a real business being done—and in the upper price brackets, too—on seamless hosiery that is really sheer, and of good quality.

With the Model K Spiral Machine—producing exceptionally fine gauge, beautiful seamless stockings—you can take in some of these profits.

Its fine appearance explains the growing demand for this stocking with square heel, elastic welt and the exclusive "Gussetoe".

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HAVE *they* ANYTHING *to* PUNCH *with?*

Maybe those men who seem unable to put punch into selling your merchandise just naturally haven't anything to punch with. Maybe they never were good at making up stories anyway.

Or, maybe you use Dixie durene. Then there is no necessity for making up stories. The story is right there. All your salesmen have to do is tell it—tell buyers your merchandise wears longer because of it.

They can explain how controlled spinning uses only long fibres, how controlled mercerization develops strength through proper shrinkage, and lustre through accurate tension. They can explain how Dixie's laboratory control gives you fewer knots and uneven places to contend with, and hence, how buyers can expect more perfect merchandise from your mill.

Give your salesmen something worth talking about. Even the dumbest can wax eloquent when there are facts to go on. Tell them about Dixie durene, then use it in your merchandise.

"From Receiving Room to Final Consumer, Dixie Durene Helps Speed Your Merchandise On Its Way"

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DIXIE MERCERIZING Company

CHATTANOOGA, TENNESSEE

DIXIE DURENE . A PRODUCT OF CONTROLLED MANUFACTURE

Modern Equipment and Process (continued)

Knitting, Braiding and Allied Lines

Banner Machine Developments

During the past two years the wrap stripe machine was developed from 12 color feeds and 14 steps (8 independent and 6 non-independent steps) and 3-color change in clock, to 24 color feeds with 19 independent steps, 4-color changes in clock, color within color and color beside color. The pattern drum has been changed from cam combinations to 48 butt discs, enabling rapid pattern changes by simply breaking butts from discs. An improved yarn take-up device operates with a minimum of tension so that any yarn can be used as a wrap yarn.

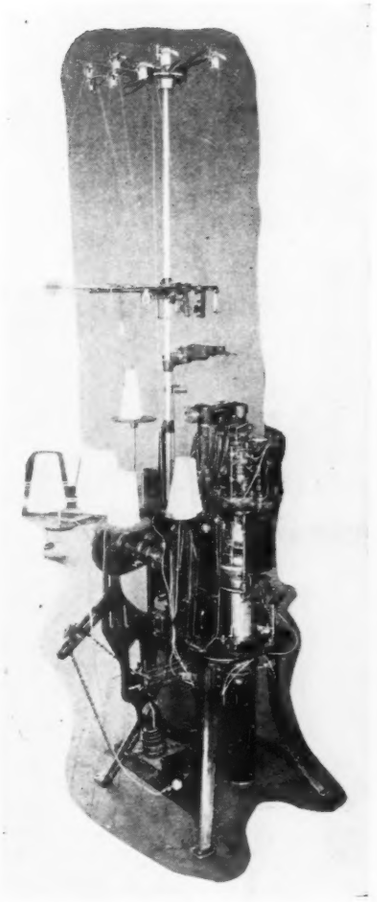
The Universal stitch machine was developed from the ordinary type tuck stitch to a jack controlled attachment giving intricate lace designs and patterns; also plain and fancy mesh. The improvements effected in this machine were developed in attachment form for aplication to any high cylinder Banner machine from 2-inch diameter up, and up to and including 70 gauge.

The Banner 12-step reverse plating machine has been equipped with plain sole attachment. Control of the horizontal striper has been improved so that it now operates from the 12-step pattern drum to insure perfect register of color changes with reverse plating figures. A second 12-step drum can be added providing for 24-step patterns. A two feed attachment for the 12-step machine provides for the feeding of additional yarn ends, at a second feeding point, giving greater scope in design with additional color and one-third more production. Reverse plating on one feed only. A duplex double feeding for the 12-step machine equipped with two 12-step pattern drums with two yarns feeding through two feeding points so that dual selection is given for pattern and color combinations. This machine, it is pointed out, knits perfect 3-color reverse plated pattern effects and double production on all straightaway knitting so that with the loss of time, due to the reciprocal action of the machines in knitting heels and toes, there is a net production increase of one-third.

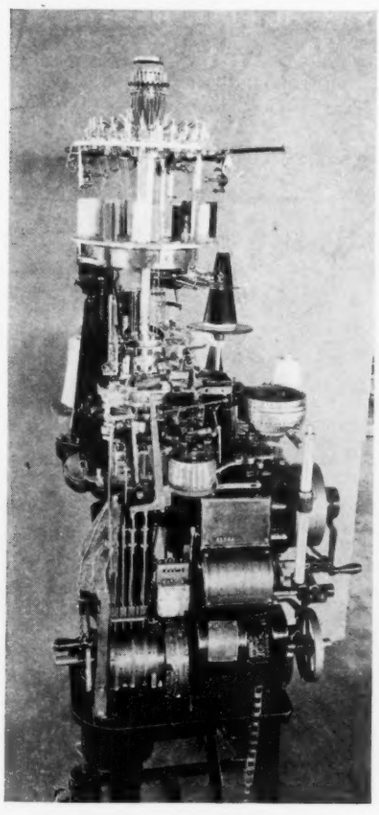
The combination machine, combining the Universal stitch and the 12-step machines, knits 3-color work, mesh and reverse plated pattern effects, mesh and mock wrap patterns on reverse plated fabrics. Mock wrap and lace clocks can be knit by adding the clocking attachment. By adding the universal stitch attachment to 12-step machines, plain mesh, pattern mesh, float stitch patterns, float stitch and pattern mesh combinations and mock wrap patterns can be knit.

The improved split foot machine now knits the leg and instep from a single cone of yarn, eliminating uneven dyeing due to yarn change defects. The machine has been re-designed with broader bearings to give longer wear, and now has 6 yarn levers so that white foot socks can have both the buffer heel and triple toe.

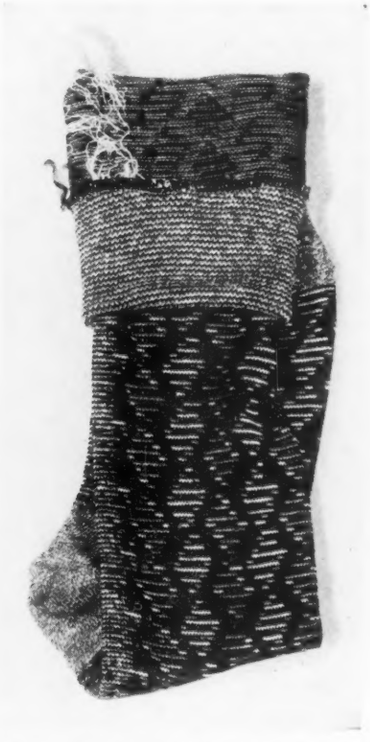
The narrow lap and take-up attachment permits three changes of face yarn when plating, reducing the striper laps to two or three needles, and eliminates fringe in back of hose. This ef-



Patented electric stop motion on Banner rib-to-toe machine . .



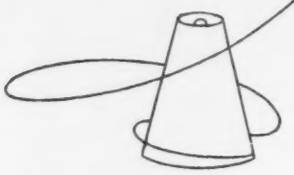
19 independent step wrap stripe machine . . . . . .



Left, golf hose knit without take-up attachment; note fringe. Right, fringe eliminated and yarn saved through use of attachment . . . .

Announcing THE NEW EVEN DYEING

ABERFOYLE *Durene* YARNS



AFTER a number of years of investigation and research to determine the cause of the uneven effects produced in dyeing mercerized yarn, we have developed a method of producing DURENE yarns free from the troublesome streaks heretofore caused by variation in mercerization.

The use of Aberfoyle DURENE yarns assures the manufacturer of a product of superior dyeing qualities, thus effecting economies in reducing "seconds" due to uneven dyeing.

ABERFOYLE · *Durene* · MERCERIZED YARNS
NATURAL BLEACHED COLORED AND

ABERFOYLE MANUFACTURING COMPANY

MAIN OFFICES: 123 South Broad Street, Philadelphia

Chattanooga, Tenn. *James Building*	Boston, Mass. *38 Chauncey St.*	High Point, N. C. *Commercial Bank Building*	Chicago, Ill. *914 Merchandise Mart*
Los Angeles	New York *261 Fifth Ave.*	Reading, Pa. *418 Franklin St.*	Hamilton, Canada

MILLS: *Chester, Pa., Belmont, N. C.*

fects a saving in yarn when using the striper and gives a superior finish to the stocking.

The improved transfer system eliminates the necessity for operators turning the machine by hand when transferring tops to the needles. The operator places the top on the new type transfer, inverts the transfer over the needles in the usual manner, presses on the plunger in the center of the transfer, which automatically transfers the top to the needles, making it unnecessary to put the hand up through the cylinder to pull the top in position. The operator then lowers the carrier ring and shifts the belt. A special safety lock on the carrier ring prevents the machine from starting until secured. The yarn is automatically introduced to the needles in positive and accurate manner.

A patented electric stop motion has been developed for application to Banner wrap stripe and rib-to-toe machines. The manufacturers state they believe this is the first stop motion successfully applied to knitting machines which operates electrically rather than mechanically.

All Banner machines are now equipped with a new main ratchet for yarn change gains, providing additional moves for yarn changes during knitting, and is especially useful in tipping heels and toes while using the horizontal striper for other purposes.

Hemphill Co., Pawtucket, R. I.

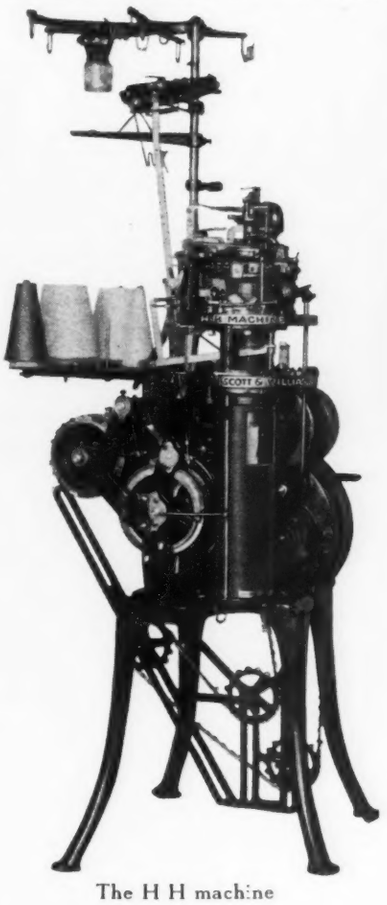
:: :: ::

S. & W. Developments

A two-feed tuck or float stitch spiral attachment has been developed for the two-feed H H machine for allowing the making of fancy patterned half-hose with an increased production. A color-in-a-color imitation wrap attachment has been developed for the H H machine for allowing an attractive embroidery clock half-hose. A coarse gauge Model H H machine has been developed such as 4½-inch 72-needle, opening a new field in coarse gauge half-hose.

The E S machine

The Model ES machine for making panel wraps and panel wrap clocked embroidery half-hose has the 18-step spiral pattern control, the gusset toe attachment and the 36-head bobbin wrap attachment.



The H H machine

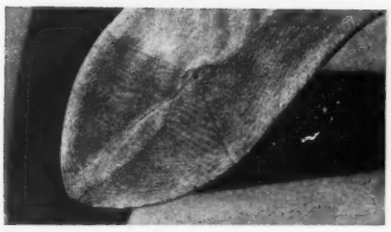
Inturned welt tops made on the Model K spiral machine have been adapted to use on full-fashioned hose, made in patterns or figured tops not make on the full-fashioned machine. The Model K top is transferred to a full-fashioned machine and the remainder of the stocking made on the full-fashioned machine.

The sinker clock attachment has been developed for the Model K machine for making fancy clocks without the use of two threads in the body of the stocking.

An elastic welt attachment is made to allow the knitting of a very loose stitch in the welt on ladies' seamless stockings, giving greater elasticity. As large a welt as desired, and outsizes, are readily made with this attachment.

The gusset toe attachment was first developed for the Model K inturned welt ladies' hose machine, to give a better fitting toe. The attachment has since been developed and placed on the Model ES, H H, B-5, and the Standard-Trump 80-W.

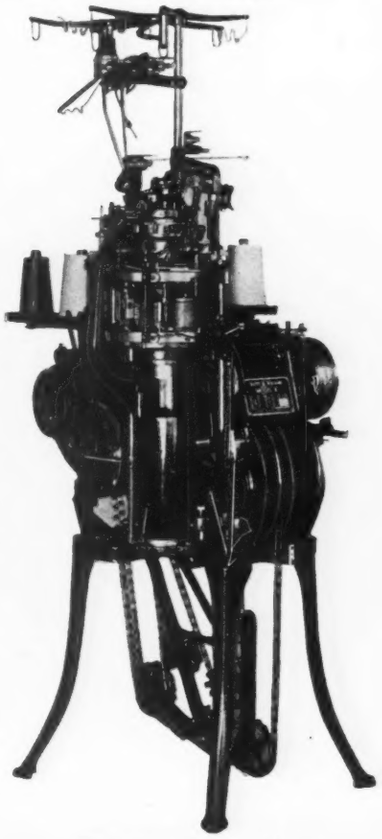
The square heel attachment was first developed for the Model K machine, on ladies' stockings, for a better fitting foot. With the new heel the fabric cannot be pulled around, and the foot is made at more of a right angle with a better fit. This attachment has also been developed for the H H, B-5 and ES.



The square heel and gusset toe

A new model announced about a year ago by Standard Trump Bros. Machine Co. is the Standard Model 80-W, of the individual needle wrap embroidery type, equipped for knitting 80 different wrap yarns at the same time into men's half hose. It is equipped with 25-step spiral mechanism for pattern control, and is made in fine gauges, such as 3½-inch, 240-needle or 260-needle.

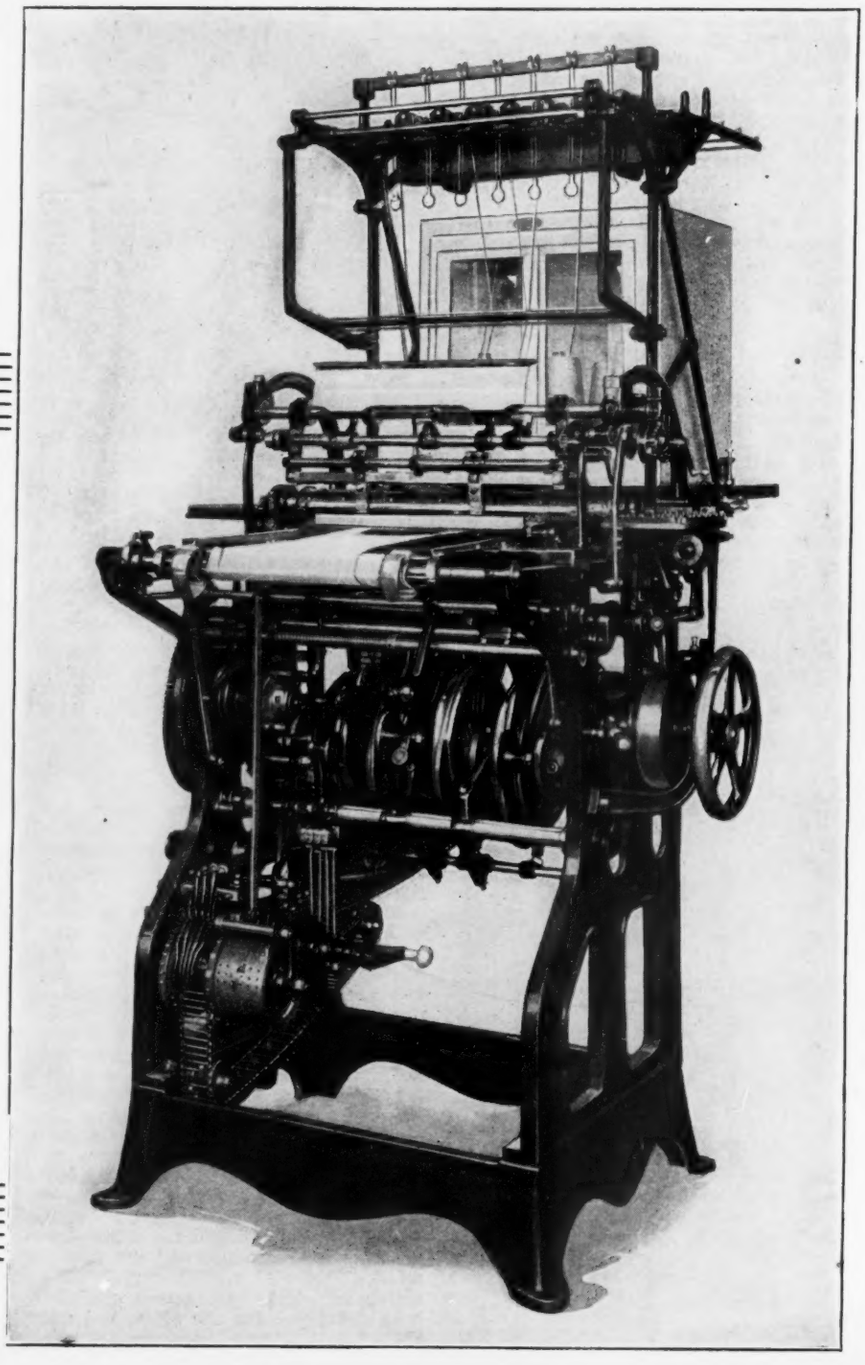
A 70-gauge infants' machine, with six-color striper, was developed as Standard Model H in line with a trend toward a finer gauge in infants' socks and anklets. The six-color striping attachment gives a selective yarn change and allows the placing of six different colors in horizontal stripes.



The K model machine

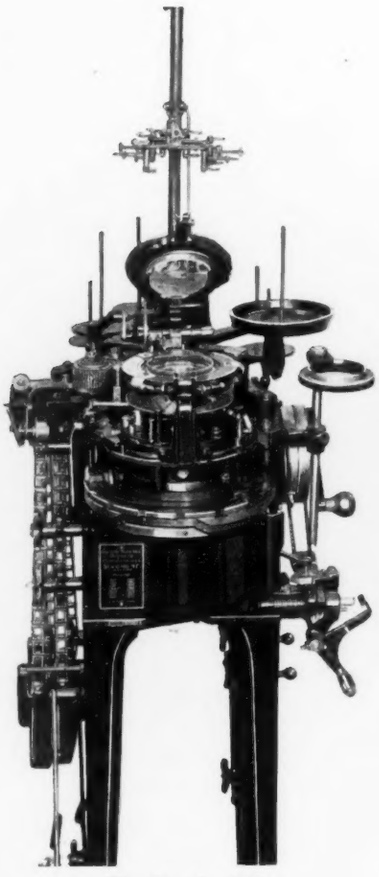
The most talked-of machine in the hosiery industry!

WILDMAN
THE WORLD'S STANDARD

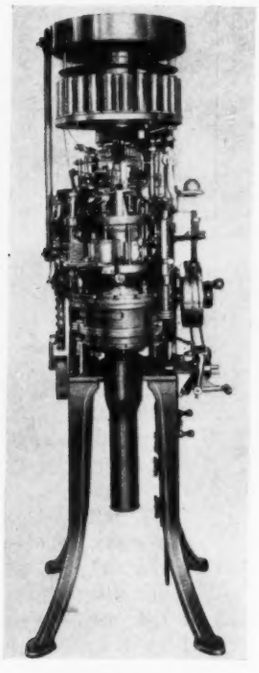


The
WILDMAN
SINGLE HEAD
Full-Fashioned
Hosiery
Machine

Literature on Request
WILDMAN MFG. CO.
Full-Fashioned Division
NORRISTOWN
PA.



The Standard H



The Standard 80-W

The Standard Trump Bros. Machine Co. are the sole selling agents of the Komet Knitter, made in Leicester, England. It manufactures quality hose, in men's half-hose and children's hose, known as the 6x3 broad rib, previously only in exclusive, and, mainly, imported hose. The machine has been further developed for the American market to make a finer gauge hose than was made abroad, and other constructions.

Scott & Williams, Inc., 366 Broadway, New York City.

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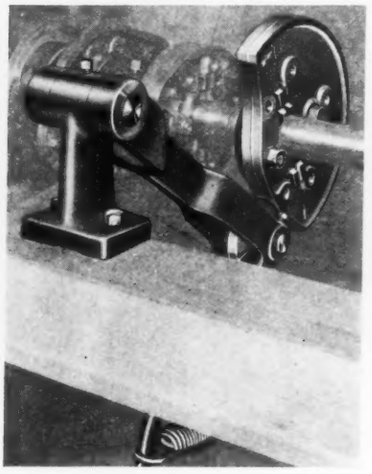
Full-Fashioned Improvements

Among the recent improvements on the Reading full-fashioned knitting machine are as follows:

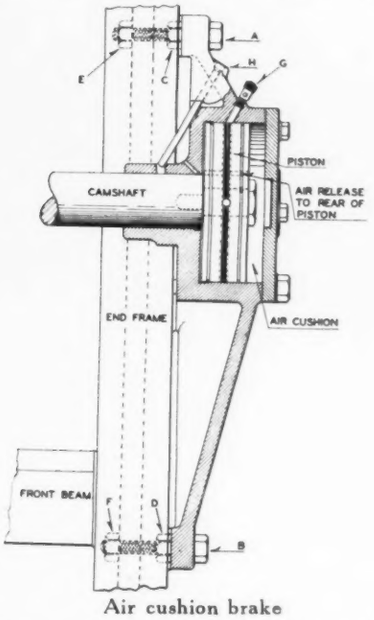
On balancing cams, the application of special cam members has been made



Balancing cam

to decrease the speed fluctuations caused by a dynamic unbalance of the cam shaft; to result in production of more uniform fabric and increase the life of the motor and machine parts. They may be installed on any Reading machine.

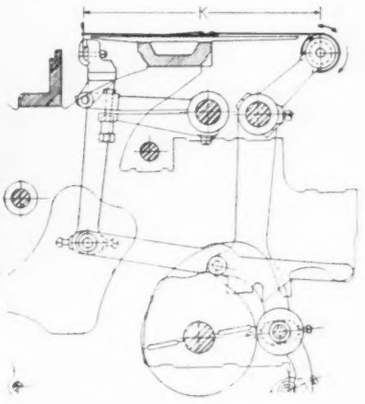
An air cushion brake for the camshaft has been applied for eliminating shock on the machine when the cam shaft is shifted for a narrowing operation. Shock absorbing effect is obtained by means of a piston working in an air chamber during the camshaft movement.



Air cushion brake

An inside splicing rocker has been applied to make the stocking more elastic at its point of greatest strain—the point of connection between the heel and instep—and to eliminate the danger of the topper splitting a stitch. The loops at this point are made larger than the ordinary loops by the action of the inside splicing rocker, but not sufficiently large to make them appear larger to the eye nor to cause distorted fabric. This is particularly applicable in the manufacture of chiffon hosiery.

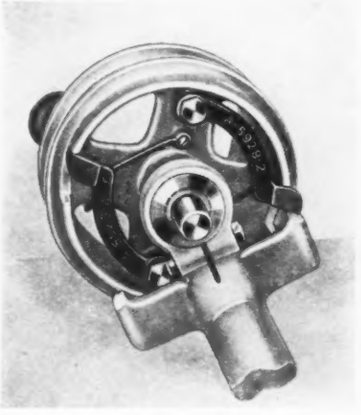
An oscillating take-up attachment and safety stop have been applied to make it possible to have the draw-off



Take-up attachment

reels follow the horizontal movement of the needles during the loop-forming operations, to transmit positively every horizontal movement of the needle bars to the draw-off reels. Thus, it is pointed out, there is no stretching of loops as the needles are forced against the presser edge, nor any excessive pull on the fabric when the loops are held by the knock-over bits during the knocking-over operations.

The take-up safety stop is a feature in connection with the take-up attachment, whether oscillating or plain, to



Safety stop

positively stop rotation of the draw-off reels in case of a complete press-off. The safety stop consists of two safety levers mounted on the reel pulley and acted upon by centrifugal force as the pulley is rotated. The maximum distance the draw-off reels can move after the fabric is released is one-half revolution.

As a safety drive mechanism on the handwheel shaft, a specially designed slip coupling is incorporated to act as a relief means in case of excessive

REDUCE NRA PRODUCTION LOSS TO A MINIMUM

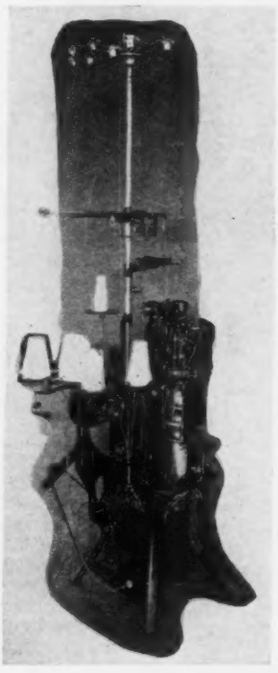
Production losses due to code restrictions can be regained only by increased operating efficiency. Worn parts must be replaced and should be purchased from the makers of the original machine. It is cheaper in the long run. Genuine Banner Parts are guaranteed. Genuine Banner Parts are made from specially treated materials having the *correct* chemical constituency, and most modern engineering processes are used in their manufacture. Genuine Banner Parts are heat-treated in electric furnaces equipped with pyrometric control. Improved type of grinders are used for all finishing operations to assure perfect surfaces and extreme accuracy. Genuine Banner Parts are made by gauge—not by guess. For the utmost in efficiency, economy and durability buy Banner and be sure.

Narrow Lap and Take Up Attachment

The Banner Narrow Lap and Take Up Attachment is designed to eliminate yarn change ends when making very close yarn changes in plain or reverse plated hose. On two course stripes this device will save a considerable part of the yarn formerly wasted and will eliminate the fringe so objectionable to consumers. The attachment also confines lap of yarn changes to three needles, giving a neat and finished appearance to the back of hose.

New Main Ratchet for Yarn Change Gains

Hemphill Company is now adopting a new main ratchet for new wrap stripe machines. This provides additional moves for yarn changes during knitting and is especially useful for tipping heels and toes while using the horizontal striper for other purposes.



Patented Electric STOP MOTION For Wraps and Ribbers

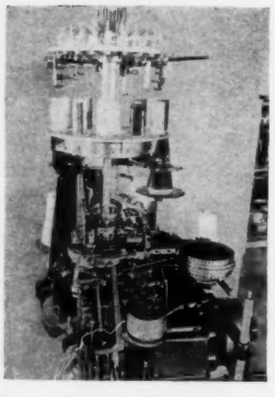
Hemphill Company announce a patented electric stop motion for hosiery machines which can now be applied to Banner wrap stripe and rib machines. This new device quickly pays for itself by reducing seconds and waste and by saving a good percentage of needle breakage. The patented electric stop motion is moderately priced, an excellent investment and immediately begins to pay returns. (Above — Banner Rib-to-Toe Machine equipped with electric stop motion.)

Double Feed Reverse Plating

A double feed attachment is now available for Banner reverse plating machines with reverse plating on one or both feeds.

With Banner Double Feed 12 Step or Banner Duplex Double Feed 12 Step two courses of fabric are knit for each revolution of the cylinder except when reciprocating for heel and toe. This gives a net production increase of about one-third. Both attachments also substantially increase styling potentialities through wider color and pattern ranges.

The Duplex Double Feed 12 Step machine is equipped with two 12 Step pattern drums with two yarns feeding through two feeding points so that dual selection is given for pattern and color combinations. Each pattern drum offers the same quick means of pattern change with single cam adjustment as is offered on the regular 12 Step Banner reverse plating machine.



New Banner Wrap Stripe — 19 Independent Steps — More Patterns — Smoother Operation.

Improved Transferring Methods

With the improved transferring method which will soon be standard equipment on all Banner machines it is no longer necessary for the operator to turn the machine by hand after transferring the rib top. The improved method contributes to a reduction in transfer seconds and saves time for the operator, thereby increasing production. An improved type of transfer ring is used so the operator need not insert the hand in the cylinder from below when removing transfer ring from needles. The operator simply presses a plunger in the center which raises the ring, leaving the stitches on the needles. A special safety lock also prevents the machine from operating until the carrier ring is secured. Hemphill Company anticipate only a minimum advance in price in making the improved transferring method standard equipment on all machines.

HEMPHILL COMPANY, Pawtucket, R. I.

General Sales Office and Machine Exhibit, 93 Worth St., New York

Philadelphia: 6822 No. Gratz St. Chattanooga: James Bldg. High Point, N. C.: Commercial Bank Bldg.

NEEDLES, SINKERS, LINKS, JACKS AND PATTERN SUPPLIES CARRIED AT PAWTUCKET, CHATTANOOGA and HIGH POINT

overload and to eliminate the sudden application of power to the machine. With this unit, it is explained, the machine is brought to full speed gradually. If the friction boxes are so tight as to cause excessive strain on the drive, this coupling will slip to pre-

Safety drive on handwheel shaft

vent damage to the costly parts of the coulier motion. The mechanism also is designed to furnish protection to the machine and motor in any case where the load becomes greater than normal, and in case of stoppages where further movement of the operating parts would be detrimental.

Equipment has been designed for the manufacture of fancy fabrics, such as lace, mesh, and non-run. The three-carrier alternating attachment, for the use of three main silk carriers in the knitting of the stocking boot, has been developed recently.

Textile Machine Works, Reading, Pa.

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Single Unit Full-Fashioned Machine

A machine combining into one unit the legger and footer for knitting full-fashioned stockings has received further development. On this machine, the stocking is knitted complete on the one unit. The machine knits the leg blank in the usual manner down to the heel tabs, at which time the instep needles are disengaged and only the heel tab needles knit. When the heel tabs are completed, the instep needles are again engaged, yarn travel increased to include sole portions, and the foot is completed in the well known manner. When the knitting of the stocking blank has been completed, the inside heel selvages are looped to their complementary sole courses, after which the stocking is finished as usual.

The engagement and disengagement of the instep needles as well as the protection against the distortion of loops here and there while idle, are provided for with an ingeniously constructed needle bar. Variations of instep width may be obtained by increasing or decreasing the width of the heel and sole reinforcement. No hook bars are required to draw off the first sole courses, this being accomplished by means of specially designed hooked knocking-over bits.

The machine is basically designed for high speed. Control of carrier and narrowing rods, needle bars and knocking-over bits is centralized in the middle of the machine.

Louis Hirsch Textile Mach., Inc., 47 West 34th St., New York City.

Hosiery Finishing Machine

A new type of hosiery finishing machine, known as the Dual-Heat, consists essentially of 12 drying forms mounted with the drying surfaces parallel and closely adjacent. In their drying position the forms are maintained in a vertical plane. An electric drive actuates the forms into and away from the boarding-stripping position. When all forms are covered with stockings and are in the drying position the operator, by touching a foot control, causes three forms to move down simultaneously for stripping. The oper-

Hosiery finishing machine

ator removes three stockings with a single stripping operation. Another touch of the control causes two of the three bare forms to return to the drying position, while the operator pulls a stocking on the remaining form down. The return of the second form properly charged with a stocking brings down the third and last form of the series for the changing operation. The return of this form brings a series of three more covered forms into position for stripping, and the cycle is repeated. These forms are designed to give a proportioning of two temperatures at the drying surface so the sheerer portions of the stocking are dried at low temperature; the re-inforced or heavier portions at a higher temperature. The forms are steam-heated, with two steam inlet lines, one for chiffon and one for service weight hosiery.

Paramount Textile Machinery Co., 538 South Wells St., Chicago, Ill.

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Multiple Head Braiding Machine

Within recent months developments have been applied to the multiple head braiding machine. The machine was constructed with the idea that a braiding machine should be a complete unit, including the power transmission and braiding equipment, and that this unit should be built from the floor up in a manner to provide the most efficient method of transmitting the power to the braiding heads and of doing the actual braiding. Working along these lines, the machines were developed with positive gear drives, built in line shafts, individual stop motions and feed heads, thus combining the flexibility of the old style braider with the high production of the new multiple head machine.

Fidelity Machine Co., 3908 Frankford Ave., Philadelphia, Pa.

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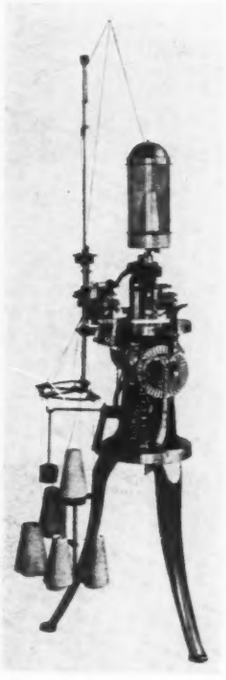
Striping Ribber

The latest true rib machine is equipped with a two-color striper mounted on the cam ring section and five color striper attached to the back of the machine and working independently of the striper on the cam ring section. This machine also has the additional improvement of a pin striping



Striping ribber

attachment in which the yarn changes are so timed that perfect alignment occurs in the fabric at the point of joining. This machine is equipped, in addition to the pin stripe attachment, with either two-end or four-end center bobbin tables making possible the combination of a variety of yarns for plaiting when desired. This machine was introduced in keeping with the strong style trend to stripes in infants', children's and misses' socks and anklets. Another development is a high speed tubing machine, four feed, equipped with four ends revolving stop motion. This machine is used in commercial tubing and for producing wristlets and cuffs particularly.

Fidelity Machine Co., 3908 Frankford Ave., Philadelphia, Pa.

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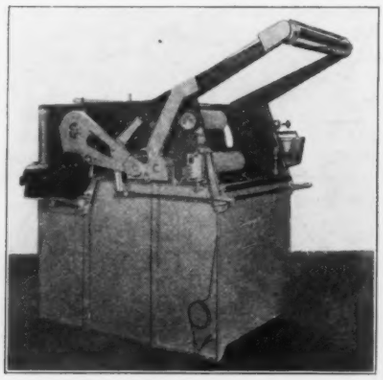
Expanding Inspection Machine

A recent development on the expanding inspecting machine is a method of automatically measuring the foot size of each stocking inspected. On this machine, for the inspection of hosiery, the form expands by power, and mirrors eliminate the rotation of the form. Projections are arranged to distribute greater pressure where needed. A counting attachment is included.

Edward R. Ammon, 515 North 3rd St., Reading, Pa.

New Fabric Processing Machines

A four string scouring, fulling and dyeing machine has a nickel-clad steel tank and Monel metal splash board, well partitions, reels and unloading reel brackets. Other features are: a



Scouring, fulling, dyeing machine

scouring unit of three rubber rolls with synchronizing change speed gears, fixtures for quick rinsing, large water supply, and large drain openings, steam silencers, dye distributor, dye circulator, direct motor drive gearing, marine type electrical fixtures, wiring and motor.

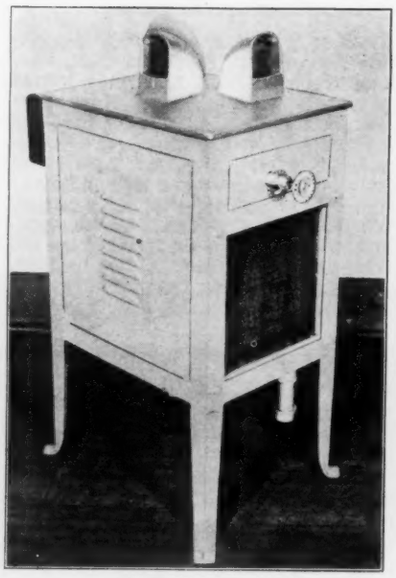
An upright and wet spreading and hanging machine, for drying tubular knit fabrics, was developed. The op-

—for drying tubular fabric

eration is that of hanging the cloth in 6-foot loops straightening and spreading the fabric. .The wet spreading operation is performed by a combination of a self-adjusting drum spreader and a spreader for changing the spread of the goods from round to flat. After spreading and hanging, the goods are lifted from the machine by special truck and conveyed to the drying chamber. It is then conveyed to the finishing machines by the same truck and steamed, spread and rolled or folded without further handling.

A knitting, dyehouse and finishing room truck can be used flat or with 2, 3 or 4 sides as desired. Two large wheels on which the load is carried permits the truck to pass over rough places easily.

A new sample dryer is used for drying test pieces cut from the goods in the dye tub. The dryer is furnished

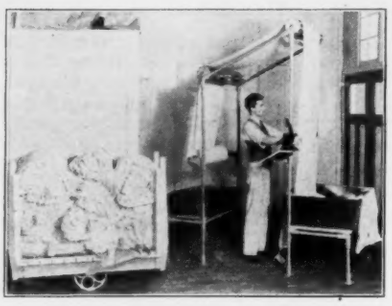


Sample dryer

with 1, 2 or 3 openings and each opening has a hook in the center of it for holding the swatch. An efficient type of radiator and blower are provided and a steaming jet is provided for aiding in accurate matching.

A new color-matching booth is built in five panels, with casters on the four corners for rolling about. The front has a light tight sliding door and the inside is painted flat black to eliminate reflection. A color matching unit for matching all colors is installed in the ceiling.

A gray goods inspection rack, a knitting machine drier, and latch needle pattern attachment are among other

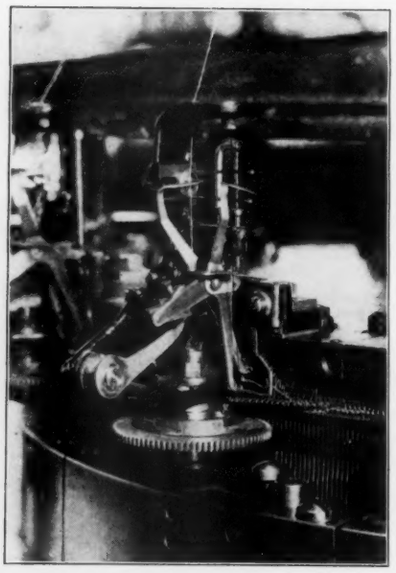


Gray goods inspection rack

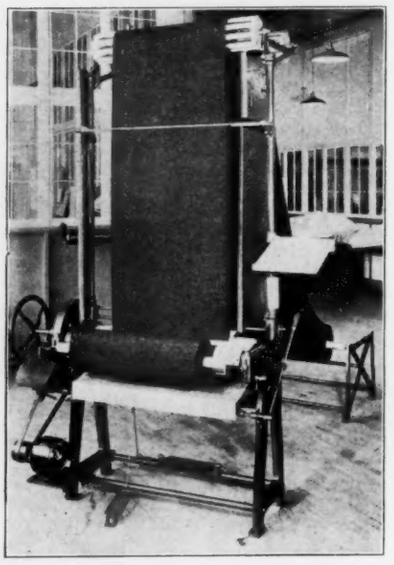
knitting room accessories recently developed. The inspection rack consists of an iron frame, two wooden reels, roll perch and two wooden or sheet metal trays of galvanized iron, Monel metal, etc. Bundles of goods are thrown into the back of the machine, then one end over the doffing reel and front roll and the other under, and the ends attached.

The individual motor drive for knitting machines stops and starts the machine smoothly, it is pointed out, through the combination of a newly designed clutch and a twin V-belt drive.

The latch needle pattern attachment is for transforming a plain underwear body machine into one producing pattern fabrics. The principle of reverse plaiting is utilized in making these patterns; the attachment is adjustable for compensating for varied resilience



Latch needle pattern attachment



Finished goods inspection rack

of different fibers.

For the finishing room a finished goods inspection rack was developed, in which the fabric passes vertically over a 53-inch high spreader. A double roll perch for goods to be inspected is used; after passing over the spreader the goods are rolled up in a solid roll without tension. A two speed drive is installed on the machine.

Grand Rapids Textile Machinery Co., Grand Rapids, Mich.

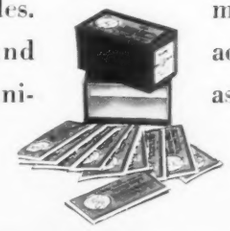
:: :: ::

Safety Table

A special ball bearing motor for driving 15 sewing machines with a 1-hp. motor at a speed of 1,200 r.p.m., has been developed in connection with a safety work table. One belt only is used, for connecting a ball-bearing clutch to the machines; for different speeds belt pulleys are exchanged. All moving parts are substantially encased in steel and are below the working surface of the table, which has demountable top.

American Safety Table Co., Inc., 8th and Oley Sts., Reading, Pa.

Only a machine can insure *real* uniformity . . . the "hair's-breadth" uniformity so necessary, for instance, in knitting needles. Torrington needles, Spring Beard and Latch, are made by machines. They are uniform of necessity . . . for each Torrington needle is turned out by exactly the same motions—in exactly the same time—according to exactly the same specifications as the last one!



TORRINGTON *SPRING BEARD* NEEDLES

THE MACHINE . . .

Scott & Williams, Inc., who make this Model K Spiral machine, are proud of its performance. They realize the value of the best obtainable needles in maintaining this performance. They endorse Torringtons.

THE PRODUCT . . .

Fine hosiery for women, made on the Model K machine. They are *well* made. One reason . . . the machine is equipped with Torrington needles.

. . . AND TORRINGTON NEEDLES

To economize on needles is false economy . . . for expensive machinery and fine materials require the *best* equipment to do the best work. Insist on Torringtons. They're made for "keeping good company" and they do!

The Torrington Company

ESTABLISHED 1866

Torrington, Conn., U.S.A.

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TORRINGTON *Latch* NEEDLES

Handling a Variety of Styles

EDITOR COTTON:

During times like we have been experiencing for the past few years hosiery mills can hardly keep running on two or three styles, and most of them carry several all of the time. Each season several new styles of hosiery are put out and this must continue to be done if the mills expect to run regularly. The writer is not in favor of so many different styles, but under present condititons the mills are forced to carry more than would be necessary under normal conditions.

With each style there are several sizes and each style and size are to be kept separated. Some styles must be rushed ahead of others in case of rush orders, etc., and there must be co-operation of the entire personnel if the mill runs successfully and gets the orders out at the right time. The knitting room foreman should keep the dyehouse foreman posted on all goods coming through, and in that way all departments can tell when and what styles to expect and orders can be filled and shipped as specified.

The first, and most important, item in operating a hosiery mill, especially where numerous styles are involved, is the buying of the yarns—not buying too much of one kind and not enough of the other. If too much is bought there is danger of it being left over, and all the profit will be lost there; if there is not enough bought, say just of one kind, that will hold up the knitting room a day or two, then the order can not be filled on time and the production will not be kept up to par.

Several kinds of yarns are used in manufacturing most any type of hose, whether it be half hose, ladies' hose or children's hose or anklets. Take the anklets, for instance, there are the toe, heel, leg and welt, the cuff and the dyed yarns, where used for the fancy hose. All of these yarns must be figured very accurately in order that they may be bought wisely, not allowing one kind to run out and another to run over. This one thing has to be watched very closely; if it is not, a great deal of money will be tied up in odd lots of yarn and in orders that will not go out on specified shipping dates, thus causing, in many cases, cancellation. Customers, now-a-days, want quality and service, and if they can't get it from one mill they will get it from another.

The handling of a knitting room should be studied carefully. Orders now-a-days, especially for domestic trade, are on an average of from 15, 30, 60, 120 and 240 dozens. The 15 and 30 dozen orders are more prominent. Take several orders and add them together by sizes, and when this is done the exact number of dozen to each size will be found. Now add the estimated percentage of seconds made from the time of knitting on through each department. When this is done a knitting sheet is made. Give it to the knitting room foreman for his guide. Each style should be handled in this manner, of course, giving the rush orders the right of way. A red tag should be put on the rush orders, indicating that they must be rushed in ahead of everything else. That goes for the knitters, first inspector, double sole clipper, back seamer, loopers and the last inspectors.

A lot should never exceed 20 dozen, as when too many dozen are put in a lot, and there are several sizes, it will take too long to get enough through to start the dyeing. Now say if there are 80 to 100 dozen to a lot and there are eight sizes, all sizes must go through before the dyeing is started. There will be 640 to 800 dozen to come through before any on this particular style can be dyed, and there will be several more styles coming through also, so it can easily be seen that a less number of dozens to a lot will keep the ball rolling more easily. In this way the dyeing and finishing will run smoother and orders can be gotten out more easily.

Actual sizes should be made. It should never be that one size is made and boarded on two sizes of boards, as the correct size is very essential in any hosiery mill. The sizes should run true above all things. A stocking, anklet, or whatever is being made, should be taken off each machine at 8:30 o'clock in the morning and 4:30 o'clock in the afternoon, each bearing a numbered laundry pin to indicate from which machine it came. Then the stockings should be given to the dyer to dye and board and should be sent back to the knitting room man as quickly as possible, so if any change is to be made it can be made at once, changes such as bad plaiting or off sizes, etc. In this way nearly all errors can be caught and there will not be such a large number of seconds.

The dyer should be very cautious, dyeing in ahead of everything else, always, the rush orders, and not just what comes through. He should keep his re-dyes down to the minimum so that the lots will not come up short and so there will not be extra to pay for stripping out, re-dyeing, re-boarding and re-pairing, besides causing orders to be held up, very often, due to the lack of a few to complete the order.

The boarder should know, through the use of some method, what is to be boarded first in case there may be several styles dyed and ready for boarding. With a "rush" tag hanging to the "rush" lots, the boarder always gets the rushed lots.

The pairers, the rider ticket girl, the transferer and the boxer should follow the same method as the boarders. When the boarder gets through boarding a rush lot he may put the rush tickets on his lot. This will follow all the way through the finishing room and each person will know just what to rush.

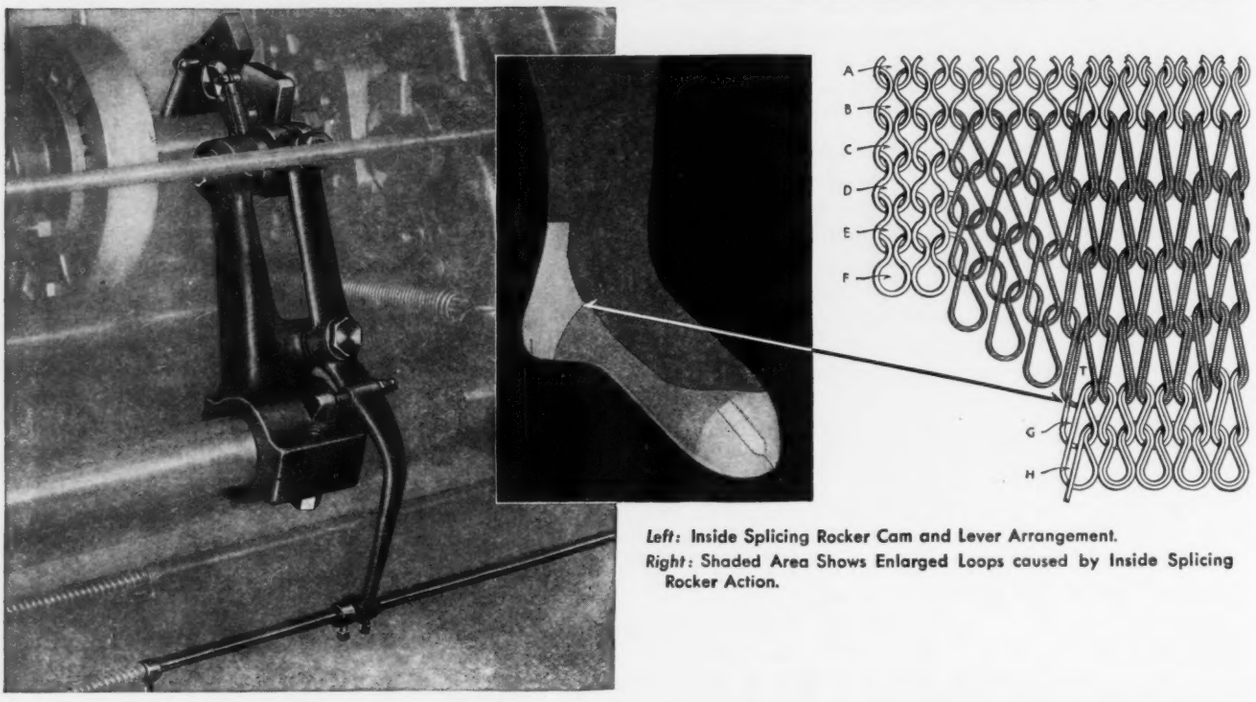
The shipping clerk should be very careful as to how he packs and routes the goods in order that the customer will receive the goods in the quickest and cheapest way.

Finally, if all of the departments will co-operate, one with another and if all will do their best to give the customer good merchandise and give it to him when he wants it, the writer is sure that a mill can operate successfully, carrying a number of different styles at all times.

CONTRIBUTOR NO. 6233.

IMPROVEMENTS IN THE READING

FULL FASHIONED KNITTING MACHINE



Left: Inside Splicing Rocker Cam and Lever Arrangement.
Right: Shaded Area Shows Enlarged Loops caused by Inside Splicing Rocker Action.

INSIDE SPLICING ROCKER

To give added elasticity at the point of greatest strain—*where heel connects with instep*—Textile Machine Works presents the Inside Splicing Rocker (U. S. Patent Pending)—designed and built exclusively for use on "READING" Full-Fashioned Knitting Machines . . . Study the detailed drawing reproduced here: The stocking is knit in the usual manner to point B. Here the Inside Splicing Rocker is automatically set in action. Courses C, D, E, and F are made slightly longer over a distance of 6 or 7 needle wales. Courses G and H then form a part of the heel tab and are the same length as the ordinary courses . . . The enlarged loops C, D, E, and F, containing more yarn, form an elastic center (at topping point T) that reduces the strain placed upon the stocking at this point . . . The larger loops in the topping course make it easier for the Topper and decrease the danger of a split stitch. The importance of this exclusive "READING" development cannot be overemphasized—particularly at this time, when fine thread hosiery needs this added protection. Write us for further particulars.

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A Chronology of the Early Hosiery Labor Difficulties in the Reading District

COMPLICATIONS that have arisen in the attempts of a group of full-fasrioned hosiery manufacturers, principally in Pennsylvania, New York and New Jersey, with several in New England, and the American Federation of Full Fashioned Hosiery Manufacturers to reconcile their differences growing out of more than one interpretation of the collective bargaining provision in Section 7 of the Industrial Recovery Act, seemed likely late in September to result in a long-drawn out struggle unless through action of the National Labor Board, which appeared pretty certain to intervene in at least one controversy, its decision in which it was suggested, might mark the beginning of the end of another.

It will be recalled that a strike order of the organized full-fashioned workers effective June 22 was recalled when Secretary of Labor Perkins wired a request that "It would seem sound policy to suspend this general strike action during the period of negotiations" between employers and employees. This request of the Labor Department Secretary did not have the effect of averting strikes elsewhere, and Reading, Lansdale and several other communities in Pennsylvania went through the usual unpleasant experiences that almost invariably attend flares in the labor world. The strike in Reading and that at the Cambria Hosiery Mill in Philadelphia, where two pickets were fatally shot by an employee in a motor truck conveying operatives to their jobs, are matters of history.

Pursuant to action taken by more than 200 manufacturers on July 23, increases in hosiery mill employee wages in and around Philadelphia amounting to 25 per cent and, in instances 35 per cent, went into effect in a number of open shop full-fashioned mills.

Effective as of July 31, the Full Fashioned Hosiery Manufacturers of America, the group maintaining contractual relations with the American Federation of Full Fashioned Hosiery Workers, voted employees a 25 per cent increase in pay and a 40-hour week, which put the union operatives on a level, in matter of wage scale and hours of employment, with the open shop mills.

The contractual relations agreement expired on August 31, and it appeared few if any of the manufacturers parties to the agreement would enter into a pact for another year. The organized workers made a demand for an increase of 20 per cent in the wage rate over and above the advance of 25 per cent voted by the manufacturers. The manufacturers refused to grant a further increase, some stating "we have gone as far as we can with wage increases." This was followed by a strike declaration, effective September 1. The strike was called off a day or two before the time set for the walk-out, after manufacturers and workers, through the executives of their respective organizations, who signed an agreement with the National Labor Board that "discussions of the subjects on which hinged the strike call be reopened." The parties were given 22 days in which to try to compose their differences, both agreeing to accept as final the decision of the Labor Board on the points in dispute after expiration of the 22 days limit.

In the meantime employees of the mills in Reading, with several exceptions, voted under the collective bargaining provision in the Recovery Act in favor of having officials of the organized full-fashioned workers bargain with the manufacturers. This, for a week or two, was regarded as equivalent to settlement of all of the strikes in the Reading area. Pending the negotiations between manufacturers and union officials, the Federation called for signed agreements, after operating had been resumed in some of the mills in a limited way.

The National Labor Board had already been called into action with relation to developments in Reading. That board has received letters setting forth the attitude of both the manufacturers and the workers organization. Hugh Hemmerich, of the Berkshire Knitting Mills, representing the Reading manufacturers, in a letter to Fred M. Wilcox of the Labor Board said: "They (the manufacturers) have unanimously moved not to enter into a contract with the American Federation of Full Fashioned Hosiery Workers." Executives of the Federation have been quoted on several occasions as saying strikes would continue until the mills against which strikes existed recognized the union.

It appeared to observers in neutral positions that the line of cleavage in the Reading dispute was clearly marked in the utterances of manufacturers and officials of the hosiery union, and that the controversy seemed headed for the National Labor Board along with that of the workers' Federation with the members of the Full Fashioned Hosiery Manufacturers of America. Saying nothing—for publication—but looking on, has been the policy of the Full Fashioned Hosiery Association, Inc., which was organized at a meeting in Philadelphia on August 24. The president of this organization is William Meyer, president of the Apex Hosiery Co. and of the National Association of Manufacturers. F. Elwood Struve, general manager of the Apex company, is treasurer of the association, and Hugo Hemmerich, of the Berkshire Knitting Mills, is vice president.

Arno P. Mowitz, attorney for the association, stated it was formed for the purpose of "interpreting the code and co-operating with and supplementing the work of the National Association." He intimated similar organizations would be formed in the South and West. What progress has been made in that direction is not officially revealed. It is understood, however, that committees may play a very important part in a service for mutual protection of members, in a manner never heretofore undertaken by hosiery manufacturers who, from the beginning of the depression until codes became the factor in industrial control, have been at a disadvantage in knowing too little of each other.

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Controversy Over Footer Operation Clause in the Hosiery Code

THE period for which manufacturers of full-fashioned hosiery must conform to the Code of Fair Competition for the hosiery Industry in the operation of footers will, by coincidence, expire on the first anniversary of the induction into office of Franklin D. Roosevelt as chief executive of the United States, who since then has been virtually in control of the machinery for steam shoveling the country out of the pit of depression. A fight for revising the footer restriction section of the code, inaugurated, planned and being waged by probably eighty manufacturers, through regularly constituted committees and an attorney-at-law of national repute, may terminate the six-months period during which the protesting manufacturers assert they will be doubly at a disadvantage in competition with others of their organization, the National Association of Hosiery Manufacturers. The controversy may drag over pretty nearly all of the six months, or may be terminated as a result of the fighting manufacturers getting the ear of code authorities in Washington.

The attorney for the protesting manufacturers is Joseph E. Davies, of Washington, a former chairman of the United States Federal Trade Commission. The committee through whom the manufacturers are making their appeal are:

J. E. Millis, the Adams-Millis Corporation, High Point, N. C.
Donald V. Smith, Vertex Hosiery Mills, Weissport, Pa.
W. H. May, May Hosiery Mills, Burlington, N. C.
S. D. Sanson, Ajax Hosiery Mills, Phoenixville, Pa.
J. C. J. Strahan, Strahan & Co., Inc., Philadelphia.
J. A. Goodman, Real Silk Hosiery Mills, Indianapolis, Ind.

The language in the code complained of by this committee in behalf of the body of protesting manufacturers is contained in Section 7 of Article IV dealing with hours of work and is as follows:

> For a period of six months following the date on which this code goes into effect (September 4, 1933), full-fashioned hosiery plants whose footing equipment on July 24, 1933, was being operated on a two-shift basis may continue to operate such equipment on a two-shift basis, but the length of each of these shifts shall not exceed 35 hours per week. The rates paid to knitters, knitting helpers and toppers working on these 35-hour shifts shall be such as to provide them earnings equal to those which they would receive if working on 40-hour shifts. Full-fashioned hosiery mills whose footing equipment on July 24, 1933, was being operated on a one-shift basis shall not, during said six months, operate such equipment more than one shift of 40 hours per week. Not later than 30 days before the expiration of the said six months, the Code Authority shall submit, for the Administrator's approval, a recommendation for determining a more permanent policy respecting footer operation designed to effect a reasonable balance between production and demand.

Some weeks before the permanent code under which the industry now is operating, Jack Kugelman, president of the Artcraft Silk Hosiery Mills, Inc., Philadelphia, voiced objection to the footer restrictions, and later submitted a list of eighty scattered manufacturers who joined in a statement to the effect their mills were set up to run footers two shifts, and that they, the eighty manufacturers, "are against any regulation in the code that would discriminate against them; that would decrease their production or increase their cost, due to not being permitted to run their footers two shifts, the same as their leggers."

Until the eighty manufacturers who had joined in this representation effected a semblance of organization, Mr. Kugelman was virtually alone in the open fighting for a revision of the code language complained of. The festering sore was brought to a head through a letter of S. D. Sanson, president of the Ajax Hosiery Mills, under date August 30 last, addressed to Earl Constantine, managing director of the National Association of Hosiery Manufacturers, copies of which letter were mailed to manufacturers.

Mr. Sanson's letter set forth that "We are compelled under the final draft of the code to work our machinery 12½ fewer hours on leggers and pay 14 per cent more wages on footers than our competitors. If we can run our footers only 70 hours per week, and if we are compelled to pay for 40 hours while getting only 35 hours work, as provided in the code," the letter continues, "this represents 14 per cent additional wages."

"We cannot co-operate in a code of this kind," the Sanson letter went on, "and we intend to fight with every weapon at our command to prevent this unfair and unjust discrimination against us and a large section of the industry."

Mr. Sanson cites a statement imputed to a leading manufacturer to the effect that "in six months the double shift for footers would be eliminated," from which Mr. Sanson deduced, addressing Mr. Constantine, "We are being placed in a position whereby we are at a serious competitive disadvantage for six months, and at the end of that time be put out of business entirely."

Warning that "the tide of revolt is rising," Mr. Sanson in his letter maintained that to discriminate against the manufacturer operating his footers double shift is as unfair as it would be to discriminate against a mill operating 24-section leggers or 28-section footers or against the manufacturer operating high speed automatic drying machines, mills having been set up as to leggers and footers just as a choice was made as to machines of various gauges and sections.

About the time Mr. Sanson was addressing Mr. Constantine, it appeared that some of the manufacturers in sympathy with his activities were bringing the footer controversy to the attention of the Washington code authorities, for one leading southern manufacturer, in a letter to Deputy Administrator Lindsey Rogers said in effect that the footer regulation section of the code "does not affect us, but we are interested in seeing fair play for our competitors."

Mr. Sanson referred in his letter to a distinctive group of manufacturers using the single shift only for footers as having figured in a control alleged as having dictated the footer section, and expressed dissatisfaction with Dr. George W. Taylor of the Industrial Research Department of the University of Pennsylvania, as "not competent to advise the NRA", alleging the doctor was too closely allied with some manufacturers and other interests to be acceptable to those whose views may be different.

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A second letter in behalf of the protesting manufacturers, also by Mr. Sanson, was addressed to the Board of Directors of the National Association of Hosiery Manufacturers, in which objection was raised to the code provision permitting the footer question to be reopened in six months. "This matter must be settled fairly and permanently," the letter stated to the directors, to whom both of the Sanson letters were read at a meeting of the Board on September 8-9, when the successive steps leading up to the adoption of the code were followed and set forth in a letter over the names of a committee appointed by the directors to draft a reply. The committee consisted of John H. Brine, president Rollins Hosiery Mills, Des Moines, Ia.; Roy E. Tilles, general manager of the Gotham Silk Hosiery Co., New York; C. S. Kincaid, president of Magnet Mills, Inc., Clinton, Tenn., and Earl Constantine, managing director of the Association.

In their reply to Mr. Sanson, the recognized spokesman for the group opposing footer restrictions, the directors took the stand that subsequent to the public hearing on code, "the chairman of the committee favoring two shifts assented in the revisions embodied in the code as finally approved," and it is stated Mr. Kugelman was a member of the committee. (According to recent announcement from the camp of the protesting group, Mr. Kugelman, feeling he may have aroused some enmities by his activities in opposing the controversial code section, has withdrawn as a member of the original committee but pledges earnest support to those pushing the battle which he is credited with having started).

The communication points out that the matter is now in the hands of the Code Authority alone and suggests they should be given proper authority to undertake this problem and deal with it. "We are certain they will take proper and ample means not only to canvass the facts which relate to the subject but likewise to canvass the views of the industry," the letter says.

The reply cites that at an industry conference in New York in July it appeared that about one-half of the full-fashioned industry desired the privilege of operating footing equipment two shifts without restriction while the other half favored restriction of all footing equipment to one shift basis. Two committees were appointed, "in a spirit of harmony," the letter states, "representing the two factions." A joint meeting of the committees submitted a report signed by John H. Brine, chairman, the result of the joint committee's deliberations being expressed in the closing paragraph of the report, as follows:

"Supplementing the understanding arrived at between the committee representing the interests of manufacturers operating their footing machines on a single-shift basis and the committee representing the manufacturers advocating the operating of footing machines on a two-shift basis, it is understood that should you find it necessary, in order to have the proposed agreement approved by the administrator, the committee representing the interests of the manufacturers advocating the operation of the footing machines on a two-shift basis of 36-hour maximum per shift, will be willing to revise the piece work rates to an extent that will enable the operators operating the footing machines to earn as much on a 36-hour basis as they would have earned on a 40-hour basis had the 40-hour basis for footers been put into effect.

The conference committee was faced with a persistent demand of representatives of labor for a curtailment of footing shifts to 30 hours where two-shift operations were in effect, but refused to shorten the shifts from 36 to 30 hours and offered instead to shorten them to 35 hours coupled with the equalization provision, which enables operatives on footing machines to earn as much on a 35-hour basis as they would have earned on a 40-hour basis had the 40-hour basis been put in effect.

The letter, for the time, had the effect of leaving the opponents of footer restrictions to deal with the Code Authority, appointed by the directors of the national association. This body consists of:

William Meyer, president Apex Hosiery Co., Philadelphia.
Austin H. Carr, president Durham Hosiery Mills, Durham, N. C.
John H. Brine, president Rollins Hosiery Mills, Des Moines, Ia.
Hugo Hemmerich, Berkshire Knitting Mills.
C. S. Kincaid, president Magnet Mills, Clinton, Tenn.
James G. Hanes, president Hanes Hosiery Mills, Winston-Salem, N. C.
John W. Mettler, president Interwoven Stocking Co., New Brunswick, N. J.
Earl Constantine, managing director of the National Association.

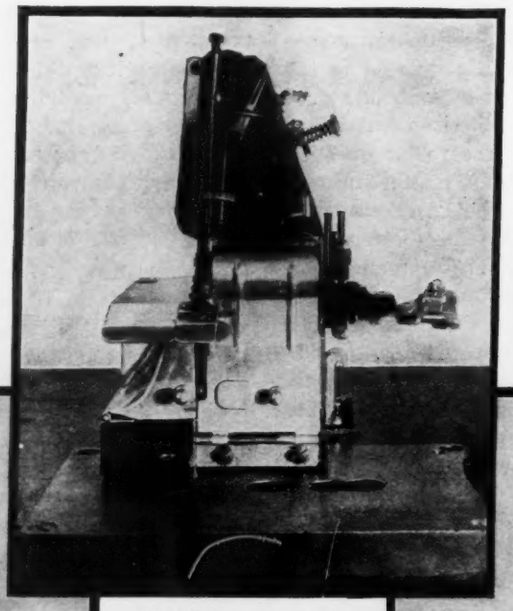
Mr. Brine and Mr. Carr were members of the original committee of protesting manufacturers. Mr. Carr, having been named a member of the Code Authority, is announced as having withdrawn from the committee but intending to give its efforts his support.

The ensuing step in the fight against footer restrictions following the communication of the directors of the national association was the announcement of the committee of six and the retention of counsel to represent the committee at code administration headquarters in Washington. That was two weeks after the permanent code became effective, after around four months of conferences and much wire pulling by various interests. It was in May that the directors of the national association adopted a procedure for evolving a code. The conference committee of the association on July 19 submitted to the National Recovery Administration a petition that the hosiery industry be placed under a provisional code on July 24 to remain in effect until the final code became effective—which was September 4. The conference committee consisted of William Meyer, C. W. Gaddy, Wiscassett Mills, Albemarle, N. C.; Joseph Haines, Jr., (Haines Hosiery Mills, Philadelphia); James G. Haines, John Wyckoff Mettler and Earl Constantine.

I bought a textile magazine once for one dollar a year that afterwards brought me in hundreds of dollars. It was COTTON.

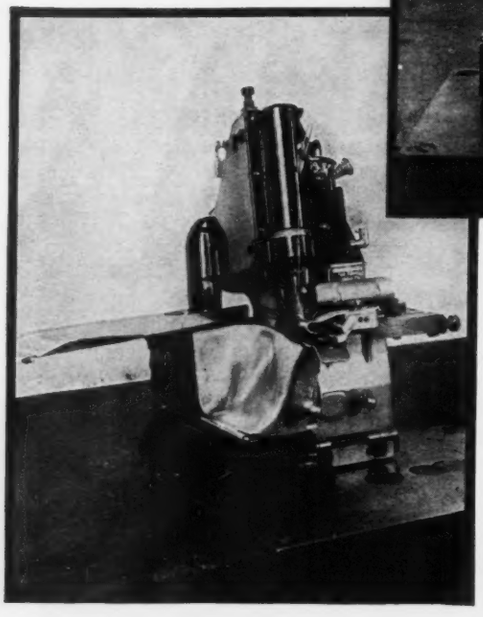
Most any overseer or superintendent can run a job when everything goes smoothly, plenty of help, high wages, supplies to burn, etc. But just let the tables turn and then you will have a chance to see who are the good *men.*

Tall trees from little acorns grow. Yes, very true, but most of the young men of today don't want to take the trouble to plant the acorn.

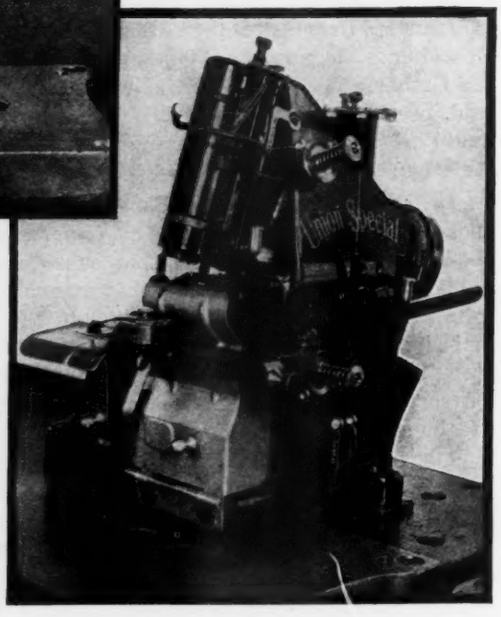


The view below shows the cloth plate swung out ready to handle small tubular work such as legs of bathing suits.

The hemming attachment is pictured below in operating position, ready to handle flat knit, warp knit, and ribbed knit fabrics of rayon, cotton, or wool.



With the hemming attachment swung out, as shown above, this machine operates as a plain over-seamer.



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And all of the above features are fool-proof. Style 39200 AS has speed — quality — and adaptability — all the essentials for making your sewing room more profitable.

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THE KNIT GOODS MARKETS . .

PRICES for women's silk full-fashioned hosiery are virtually back to the level of the spring season of 1931, that is, if a nation-wide survey by authority of the Berkshire Knitting Mills be accepted as a fairly accurate picture of the range of prices in retail stores at that time.

The 39-cent price featured by a type of department store exploiting full-fashioned stockings alluringly described, having disappeared from even shoe stores using hosiery at sacrificial prices for advertising purposes and charging losses to the advertising account, similar construction is seen under price placards carrying 59 and 69 cents, instead. But it would appear from comment by manufacturers and jobbers that sales at the later prices are in lighter volume than when the lure was 39.

One establishment featured 34 cents in a promotion sale, but grudgingly disclosed in small type in advertising matter that it was seamless knit. There has developed a wide demand from dealers for women's seamless silk at $4 a dozen, and it is freely predicted that consumer demand for that construction at a half dollar has been made manifest to retailers. One mill is asking $4.25 for a fine gauge all-silk seamless, apparently taking it out of the 50 cent retail bracket.

It seems no idle guess that half-dollar seamless will be as popular as were full-fashioned stockings priced in the range 91 cents to one dollar a pair in the spring of 1931, as indicated by the Berkshire survey. Sales in that range were shown as representing 37 per cent of the total, compared with 8.3 per cent for the range 69-79 cents, where now is found the former 39-cent stocking while the former 50-cent number, speaking broadly, is in better company in the 91 cent-$1 bracket. A showing by the Berkshire that some manufacturers seem inclined to question as to accuracy is sales of 45-gauge represented within a small fraction of 50 per cent of the total.

See Need for Price Adjustment

Although manufacturers had been operating under a provisional code until the code now in force became effective, there appears evidence of a need for adjustment of prices. While some are asking $6.50 to $7.25 a dozen for four-thread 42-gauge, which puts the former $4 a dozen stocking in the 80-90 cent range, on the basis of average retailer mark-up, a leading mill is reported quoting a 7-thread 45-gauge with lisle top and plaited foot $8.50 to retailers and a two-thread 51-gauge only $2.50 more, at $11 a dozen.

Somewhat confusing for mills asking $6.50 to $7.25 a dozen for their four-thread 42-gauge is the fact at least one large mill selling to retailers exclusively has been quoting $6.50 since August 1, the price at that time having been advanced from $5.75 which was maintained while jobbers were paying $4. From present appearances, until prices have been readjusted for bringing the lower grades more nearly in line with the better types, it is feared Mrs. Consumer may be inclined to regard the bottom prices exorbitant in contrast with the pre-code prices and what she is being asked for finer gauge—for example, five-thread 51-gauge, mill price $10.50; four-thread 48-gauge, mill price $9.50, and a manufacturer's price of $8.75 for a five-thread 48-.

Although there is, necessarily, retailer criticism of some of the new prices, there is and for several weeks has been brisk demand for hosiery at a shading from ruling quotations. Some of the smaller and more flexible mills report "swamped with orders."

Most of the larger establishments not affected by strikes have been maintaining a two-shift schedule. "There has been abundant opportunity to dispose of four-thread 42-gauge all silk for $6.25 a dozen, an impossible price," say manufacturers. Buyers of "jobs" have been industriously looking for irregulars, and recently it was possible to get $7 a dozen for 45-gauge. The description "39-gauge" is being kept well in the background for the present, to be heard from, some predict, when competition becomes keen for business in the moderate and higher price numbers.

Single-Unit Question Bobs Up

A question that may have been overlooked when the hosiery code was being drafted, but which is being quietly discussed, "Will the single unit full-fashioned machines have an operating advantage over the legger-footer equipment, in view of restrictions on the operation of footers to 70 hours a week for two shifts and a wage for 35 hours a single shift equivalent to what a footer might earn in 40 hours?"

If it be correct, as is maintained by opponents to the machine section of the code as it stands, that numbers of mills cannot maintain a proper balance of feet and legs except at a greater cost than that of certain competitors, by an alleged 14 per cent. then the single unit device, it is asserted by some observers of the controversy over footer restrictions, may prove to possess an advantage over the two-machine unit, in that it provides for balanced production.

Fine gauge ringless hosiery is being knitted on at least two—probably more—single unit machines, one of which is in operation in the mill of the LaSalle Hosiery Co., Philadelphia, and still another in a mill at Greenlane, a small town in eastern Pennsylvania. The Greensboro (N. C.) Full-Fashioned Hosiery Mill, like the two mentioned as having single unit equipment, is understood to have increasing demand for ringless stockings and is selling a number of desirable accounts. Ringless attachments were recently installed by the Archer Hosiery Mills, Columbus, Ga., and the improved type of stocking from that mill is understood to be meeting with a cordial reception,

DAVISON'S KNIT GOODS TRADE

THE INDUSTRY'S ONLY ANNUAL REGISTER

"A Davison Publication—Standard Since 1866"

MILLS—JOBBERS—CHAINS—RETAIL

THIS Standard Register of the Knitting Industry reports all spinners, manufacturers, agents, jobbers, chain stores and retailers—the latter with buyers by departments, number of chains operated, buying headquarters, and other sales data. Features of interest are:

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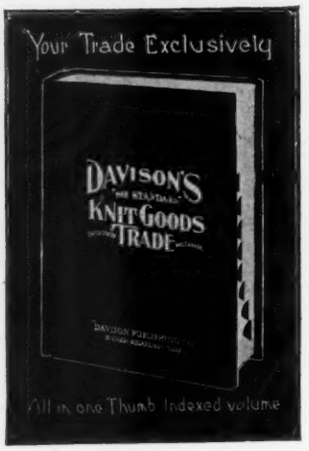

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at a price not much below $2 a dozen.

Several interesting and perhaps significant conclusions may be drawn from the compilation of hosiery manufacturers reports to the Bureau of Census, Department of Commerce, for the month of July, when comparisons are made with the previous month and with July 1932.

Some Hosiery Trends Indicated by Recent Statistical Reports from Mills

There was the traditional decline in production, all classes considered, to 5,263,744 dozens from 6,316,516 for June. A decline of three and one-half million dozens to 4,790,453 dozens in orders booked seems to have confirmed the common belief that buyers were not placing orders on a basis consistent with the then prospective increases in prices, since then visualized as to many types of hosiery. This view had confirmation in a decline of over 1,000,000 dozens in net shipments and a drop of around 1,250,000 dozens in unfilled orders, which was partly offset by a decrease of about 750,000 dozens in stocks, finished and in the gray, in mills. In other respects, comparison of July with June deduces little of material importance. The reports for the two months were from 336 mills, of which 20 reported no production during July.

Of the total production of hosiery in June, almost 33 per cent was of cotton, including mercerized, while of the July output more than 38 per cent was of cotton, including mercerized. The ratio of cotton to all other classes was pretty well maintained as between June and July. When comparison is made of July 1933 with the corresponding month of last year, more interesting results are seen.

Cotton hosiery was increased in July this year to more than five and one-quarter million dozens from July in 1932, orders booked during the month show a gain of more nearly one and a half million dozens and net shipments were increased to 5,756,641 dozens from 3,108,386 and unfilled orders totaled 6,295,623 dozens, a jump of 4,136,436 dozens. The enormous shipments effected a reduction of 1,570,236 dozens in stocks in the hands of manufacturers, 336 identical mills being again represented in the statistics for the two months.

Obviously the increased shipments and unfilled orders in July this year can be attributed to many distributors coming under the wire in advance of the aggregate increases in cost of cotton yarns due to wages under the cotton textiles code and the processing tax. Production of men's seamless half-hose increased more than 900,000 dozens, net shipments by more than one million dozens and unfilled orders at the end of the month by over one and a half million dozens, while stocks in mills dropped by more than 800,000 dozens. Compared with 1932, July this year shows substantial increases in orders booked for women's full-fashioned hosiery; a gain of over 900,000 dozens in unfilled orders at the end of the month, and a leap of more than 800,000 dozens in unfilled orders for juvenile lines classified as boys', misses' and children's. Infants' socks were in step with other classifications, gaining more than 200 per cent in unfilled orders at the end of the month

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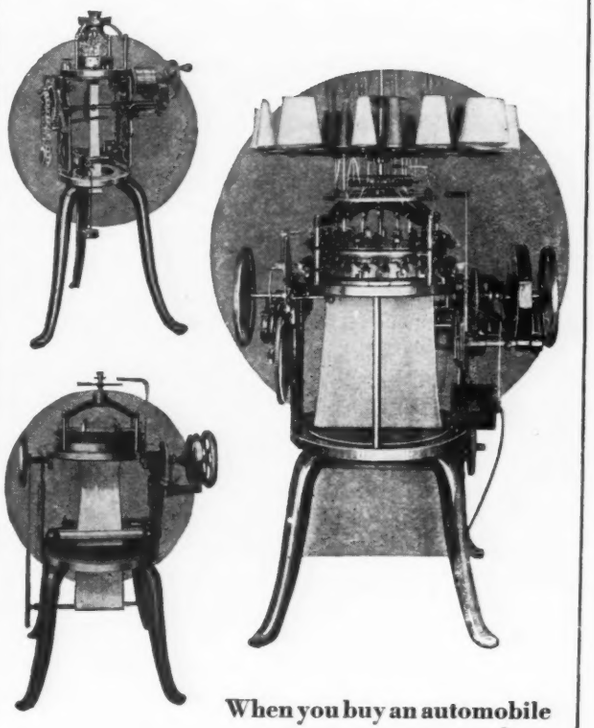

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BRINTON CIRCULAR KNITTING MACHINES
of EVERY Kind for EVERY Purpose

A buyer movement in favor of lower price stockings is indicated in the July production of 2,023,410 dozens of cotton stockings, an increase of 1,078,266 dozens over July of 1932. This increase, it is shown in an analysis of the reports, was pretty evenly distributed among seamless for men, women, juveniles and infants, athletic hose alone falling behind in matter of production of cotton numbers. Athletic lines were more largely of woolen and worsted, output being 12,146 dozens compared with 1383 dozens in July last year. The same fabric was knitted more extensively, by far, in seamless for men, women and juveniles, the shipments in July showing an increase of 50 per cent over July a year ago. Cotton and wool in mixture is also promising of being more extensively worn in the coming heavy weight season, output for July exceeding that of the corresponding month of last year by approximately 392 per cent, most of the gain being absorbed by men's seamless, women's and juvenile sharing in it, however.

In the reports for women's full-fashioned hosiery there is noted a July production of 134,071 dozens of silk and cotton mixture, against 7400 dozens in July 1932. Rayon and cotton mixture rose to 498,177 dozens in July this year, against 291,350 in the corresponding month of 1932, the increases being conspicuous in men's and women's and juvenile and infant's seamless.

Mill reports for August to the Department of Commerce should prove of more interest than those for July, since in the latter month there was only partial operation under the code. It has been estimated by some close observers of matters in the full-fashioned industry that mills operating full time and overtime before the code became effective reduced their output around 40 per cent in August while operating under a provisional code.

Moderate Underwear Price Reductions Stimulate Jobber Interest in Heavy Weights

"This is the first letter of the kind we ever received," said the executive of a widely known jobbing establishment distributing large quantities of underwear and hosiery, displaying the surprise missive, from a southern manufacturer of men's heavy weight cotton ribs. The letter was short and to the point, stating, simply, in effect, "Referring to your order of 9/5, we have since made a reduction of 12½ cents a dozen on No. —— and will of course invoice you accordingly, although the order was placed prior to this reduction."

"Well," ejaculated the old-time jobbing house chief, "that will help some, and I believe this announcement, which I assume is being sent to all of the mill's customers, is going to result in the mill getting more orders for early fall. A great many thought the manufacturers had made some increases that seemed not warranted. Price adjustment will go some distance in averting price cutting, and while we would prefer that the code did not necessitate the sharp advances all of us have been compelled to make, I feel that it will have the effect of driving some of the wolves out of the underwear business."

Trading in heavy weight underwear is well under way, so far as distribution to jobbers goes. But there continues no little retailer resistance to current quotations on standard lines of light and medium weight for women. This was especially apparent to manufacturers in the Schuylkill Valley section of Pennsylvania in September. Road salesmen said they found retailers, notably some ranking among the smaller units, so much exercised over the floor tax on cotton goods which they were expecting to be forced to pay, that often it was difficult to get them interested in underwear offerings. Among department stores it was different.

Buyers for some of the large retailing establishments were in the market for medium weights to sell for 25 cents per garment. Manufacturers had set a price of $2.25 for types which last year were bought by retailers for $1.50 a dozen. The latter wanted the same numbers, for promotion sales, and stammered when they could not get a 25-cent concession in order that a substantial store profit might be realized when selling the garments for 25 cents which at times in 1932 were exploited at 19. It is not unusual, say sellers, to find buyers saying "Amen" for the "code for fair trade practice until they are quoted a fair price under the very code they praise."

It was noted last month that "bargain" sales of underwear in the special 25 cent bracket had virtually been discontinued.

Seasonal Slowing Down in Sweaters; a Few Mills Show 1934 Swim Suit Samples

Business in knitted underwear tapered in September to the seasonal relatively light volume. Strikes in a number of mills reduced production opportunely for some mills, in that they had about completed their fall orders and new ones were harder to get, in view of an advance of 70 per cent and more in the prices of certain of the more popular numbers in sweaters.

The slack situation was vividly pictured in a severe falling off in the business of spinners of worsted yarns for the knitting trades. There seems not a shadow of doubt that a fair amount of rush delivery business will be placed in October and early November, for manufacturers report their sales are short of a season's quota, after making allowance for the slowing down in view of higher prices. If the strikes continue for a few weeks, however, it has been pointed out, alarm among jobbers and retailers over deliveries before the holiday shopping period probably would be felt in a more conservative attitude toward commitments. In the situation as to sweaters, quotations on some counts of worsted yarns receded by 2½ to 5 cents a pound in September.

A few manufacturers of bathing suits have shown samples in a very modest way, for feeling out sentiment among buyers. It is understood the result does not encourage a general showing much before January. Those who hold to the view that the statistical position of wool is assurance that, with a fair amount of business in goods, prices for yarns will be higher, seem eager to book bathing suit orders in sufficient volume to justify contracting for yarns in advance of seasonal demand on mills.

QUITEX
SPUN RAYON

QUISSETT MEANS QUALITY

Quissett Mill
New Bedford, Mass.

Wm. M. Butler, Pres.
Edward H. Cook, Treas.
Thomas F. Glennon, Agent.

We have been spinning rayon for several years and have established a reputation that meets the most exacting buyer. Quitex Spun Rayon has a fashionable dull lustre and unusual strength—imparting to fabrics a new sales appeal.

There are many ways in which you may use Quitex to advantage in your textiles. Profitable results are assured with the Quissett reputation behind it.

Let us send you samples of Quitex Spun Rayon.

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NRA MEMBER U.S. WE DO OUR PART

"Brosco" Silk Finishes withstand repeated washings
— *for they're fixed on the fibres*

Many Silk Hosiery and other Knit Goods manufacturers are using these 3 "Brosco" Finishes:

"Brosco" Dull Finish
Finishing Compound S. P.
"Brosco" Scroop Oil

—and by varying the proportions, secure any desired degree of Low Lustre, Water and Spot Proofing, Softness and Elasticity, with only ONE bath.
May we send you further details,—or have one of our practical men call?

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MFGRS. of TEXTILE SOAPS, SOFTENERS, SULPHONATED OILS & SPECIALTIES
AMBER and WESTMORELAND STS., PHILADELPHIA, PA.
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REVIEW OF THE YARN MARKET

Philadelphia, Pa., September 17, 1933.

A FAIR amount of business in cotton yarns was forecast by virtually all leading sellers after the trade had experienced a lull in demand and sinking of prices of carded, while quotations on combed showed an unusual disparity, in one of the year's quietest four-weeks sessions. Slack business was the least of the sources of anxiety for some of the distributing organizations. They were being subjected to caustic criticism by some of their more highly prized customers because, it was alleged, spinners were slow with shipments against low price orders preceding the establishing of codes, while trying to force deliveries of high price yarn.

While serving as a buffer as between spinner and customer, dealers also were hearing from spinners to the effect manufacturers were trying to stall off deliveries.

With raw cotton showing unsteadiness and the September crop estimate indicating a greater yield than was estimated on the basis of the August report, yarns lacked sufficient demand to maintain prices. There was some shading by more than a cent to near two cents at times during the September quiet, according to several of the more important executives of Philadelphia yarn houses. This occurred when 10s single carded on cones were quoted in a range 28½ to 29½ cents, some spinners asking 30. It was what some in the trade said was to be expected in a quiet market and caused no confusion, for it was possible to obtain the market for good yarns, which appeared a good asset in view of prospective increased buying as Fall goes on.

Weaving numbers were viewed in most establishments as the drag. There was some buying by manufacturers of pile fabrics; less in dress goods and not a great deal in tapestries and webbing, yarn houses reported, usually agreeing in these reports. Quotations of 31½ to 32 cents were heard on 20s/2 warps, a half cent more asked by some sellers who were quoting 38½ to 39 cents for 30s, with 37½ being accepted by some. The bulk of the recent business, it appeared, was in knitting numbers, and an interesting development was a stir among some of the up-state Pennsylvania manufacturers of seamless half hose and children's cheap stockings who for several years have been doing comparatively little business in these lines.

The bulk of the orders placed with Philadelphia yarn houses to the middle of September represented underwear numbers. Some manufacturers were clamoring for deliveries against orders placed in April and May, in instances, one concern having received up to last month around 15,000 pounds against an order for 75,000, specifications calling for shipments to be completed by September. Recent interest in underwear yarns was expressed especially in counts 18s to 24s. Slow carded 30s were reported sold for around 37-37½ cents.

Price disparity was well illustrated in quotations on 40s single carded, ranging 43 to 45 cents, while several spot small lot sales were made at 47 and a fraction better. The market situation really afforded no opportunity for a test of values, as was indicated in the confusion incident to combed peeler yarns, notably in singles, which were reported in instances to have been offered at the peak asking prices for carded of the same count, plus three to five cents. Single combed peeler was let go in one transaction for 40 cents for 24s, which was regarded as establishing a basis for finer counts around two cents below the then current quotations.

Mercerized 60s/2 combed peeler was marked down to 60 cents in September, toward the end of the month, by one leading mercerizer, others confirming a report to this effect and naming a range of 82-84 cents. The entire list is, obviously, correspondingly lower, due to slack demand ascribed in large measure to the prevalence of labor disturbances in many industries.

Tentative prices published in Philadelphia on September 16 are reproduced as a matter of record. They apply to yarn for spot delivery, subject to spinners' confirmation; and are adjusted to include tentative effect of the cotton processing tax:

Single Skeins

4s to 8s	28	10s	28½
12s	29	14s	30
16s	30½	20s	31½
24s	34	26s	35
30s	37½		

Single Warps

10s	29	12s	29½
14s	30½	16s	31
20s	32	26s	35½
30s	38		

2-Ply Skeins

8s	28½	10s	29½
12s	30	14s	30½ @31
16s	31 @31½	20s	32 @32½
24s	34½	26s	35½
30s	38	40s	47

Two-Ply Warps

10s	30	12s	30½
14s	31 @31½	16s	31½ @32
20s	32½ @33	24s	35
26s	36	30s	39
40s	49		

Framo Spun Carded Cones

8s	28	10s	29
12s	29½ @30	14s	30½ @31
16s	31 @31½	18s	31½ @32
20s	32 @32½	22s	33 @33½
24s	34½	26s	35½
30s	38	40s	47
30s double carded			40 @42
30s tying in			36 @37

Carpet Yarns

8s and 9s white warp twist	28
8s tinged tubes	27
8s part waste	24

Two-Ply Combed Peeler Skeins and Warps

8s to 16s	40 @43	20s	46
24s	47	30s	49 @50
40s	55 @57	50s	60 @62
60s	68 @70	70s	79 @81
80s	90 @92		

Single Combed Peeler-Yarns on Cones

10s	40	14s	42
16s	43	18s	44
20s	45	24s	46
30s	48 @49	36s	51 @52
38s	53 @54	40s	54 @56
50s	58 @60	60s	66 @68
70s	76 @78	80s	88 @89

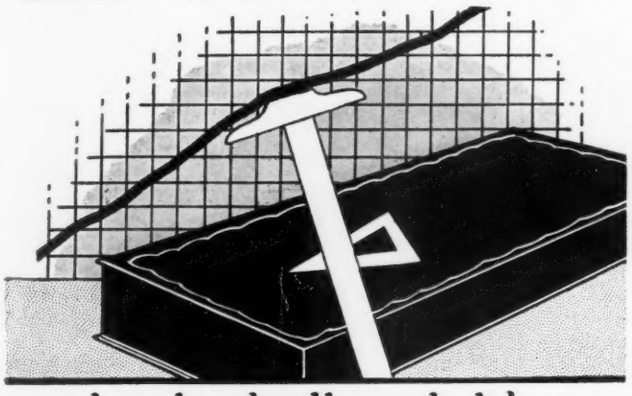
Mule Spun Carded Yarn on Cones

10s	34½	12s	35½
14s	36½	16s	37
18s	37½	20s	38
24s	40	28s	41½
40s	53		

Mule Spun Combed Peeler Yarn on Cones

10s	44	12s	45
14s	46	16s	47
18s	48	20s	49
22s	50	28s	52
30s	54	36s	57
38s	59	40s	61

Boost Your Sales Curve



with individually styled boxes

Higher sales curves follow when proper care is taken in styling boxes for textile products. Paper boxes by Old Dominion are scientifically designed to your individual needs by experts who know merchandising as well as box making. Write nearest plant for samples, prices.

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Lynchburg, Va.
Winston-Salem, N. C. Burlington, N. C. Asheboro, N. C.
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quality OLD DOMINION Paper Boxes

TEXTILE DEPURATOR

TURNING THE WHEELS OF PROGRESS

NEUTRALITE DETERGENT

The Comparative EFFICACY and LOW COST of

DEPURATOR XX
for Cotton

NEUTRALITE XX
for Silk and Wool

NEUTRALITE XB
for Heavily Oiled Rayon and Wool

Cuts the Corners off Production Costs while giving a Better Quality Product.

TIME IS ESSENCE

To shorten the Boil Off period Saves Power and Labor,
To Increase the Factor of Safety of the Fabric by a Low and Controlled pH value,
To Insure thorough Penetration of dyes and the Leveling of Shades,
To reduce Re-dyes and Seconds to an Absolute Minimum.
These are the Certain and Sure

RESULTS

From the use of
DEPURATOR XX
NEUTRALITE XX
NEUTRALITE XB

"The proof of the pudding is in the eating."

Detergent Products Corporation

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BONE-DRY HOSIERY FINISHING BOARDS

PEARSON
HARD MAPLE
HOSIERY FINISHING BOARDS

THAT WORK ABSOLUTELY SMOOTH

The famous bone-dry, unshrinkable, well finished boards that give universal satisfaction.

Especially recommended for silk and chiffon hosiery. Satisfied users the country over. A list of these users gladly furnished to any mill on request.

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METSO
ACTIVE ALKALI

BESIDES improving the whiteness, you can *see* another advantage when you use Metso as your kier assistant. Note the openness of the fabric, the better "handle or feel" of the goods.

These result in quicker bleaching action, and better finish. Are you interested? We'll be happy to co-operate with samples and information.

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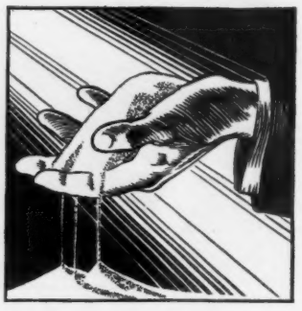
COTTON

ATLANTA, GEORGIA

Desizing Grey Goods

Proper dyeing, printing, and finishing require a good bottom. A good bottom can only be obtained by complete desizing. Best results demand complete desizing before the kier boil.



Degomma 20F is a dry, white powder which is clean, stable, accurately standardized and convenient to handle.

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removes the size completely without weakening the fibre, and insures quick and thorough penetration during the kier boil. Goods desized with DEGOMMA 20F come out of the kier white and absorbent which makes possible level dyeing and printing.

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Sulphonated-Saponified

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Turkey Red Oil — Castor Soap Oil
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B & L Bleachers' Bluings and Violet Tints

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DEXTRINS *and* GUMS

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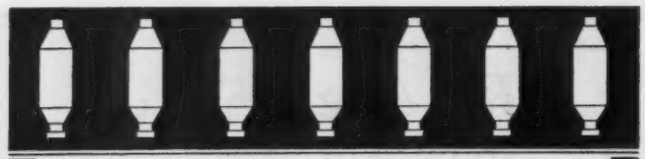

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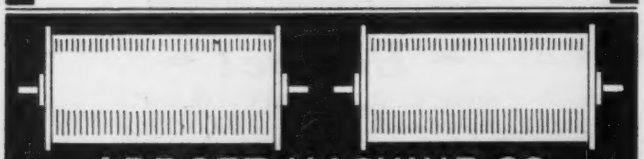

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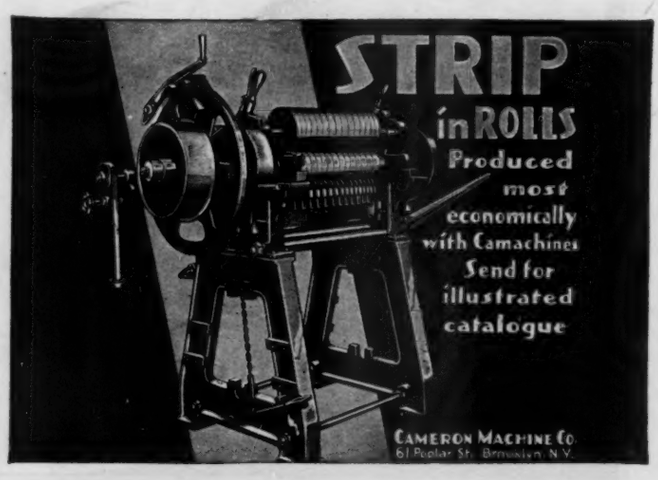

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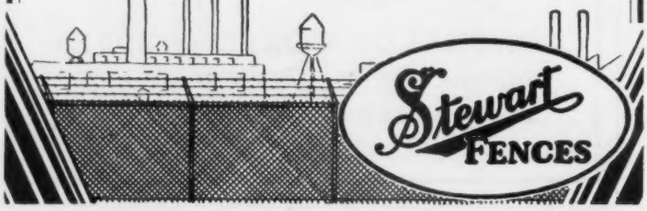

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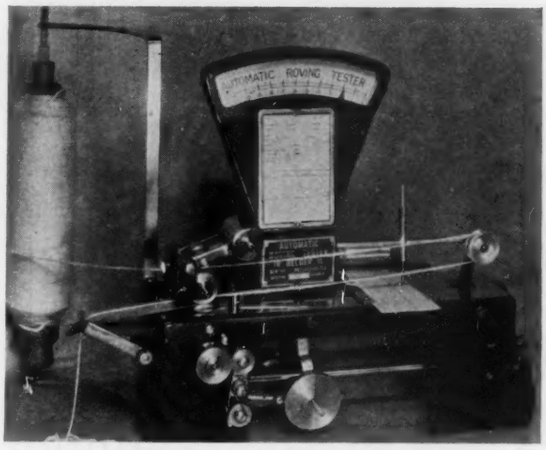

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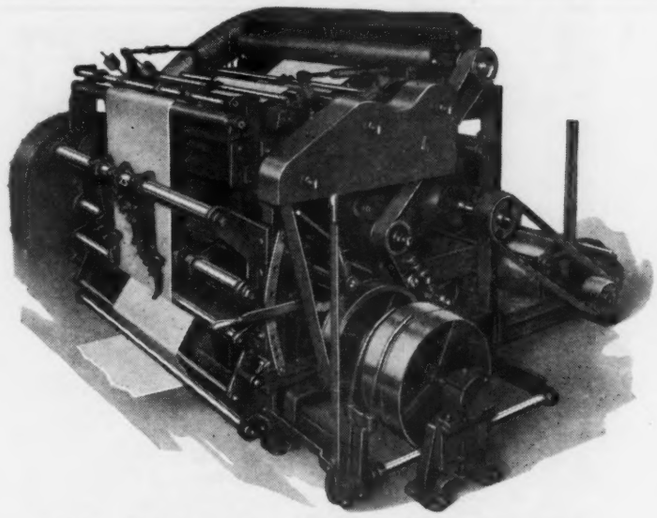

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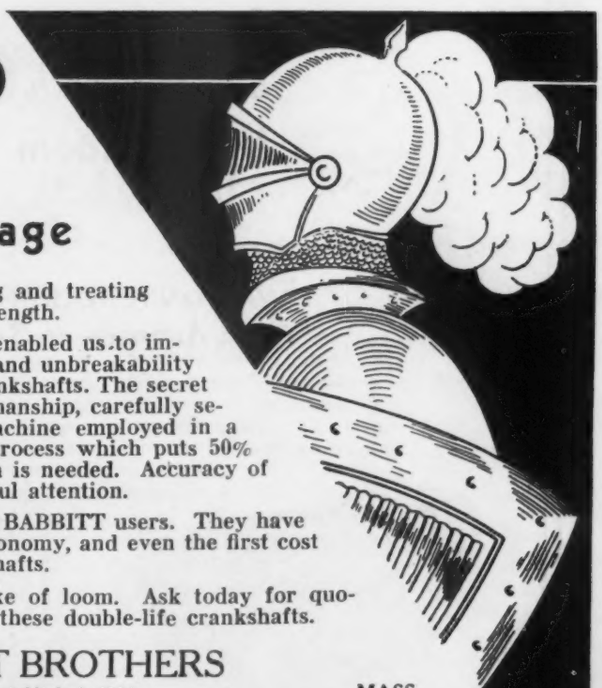

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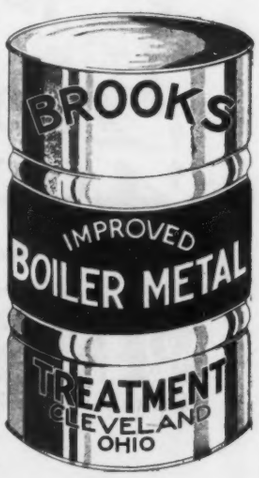
Brooks Improved Boiler Metal Treatment DOES NOT TREAT THE WATER. Its action is strictly mechanical. In the boiler it expands to dislodge the scale from the boiler's surface.

It creeps into the scale crevices, expanding between the scale and boiler metal, wedging the scale off and leaving a thin, heat-conducting film on the metal to which further scale cannot adhere. It cannot injure the boiler metal, stops pitting and any galvanic action. No odor or impurity is carried over into the process steam. Furthermore, it is economical and easy to use.



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CLEVELAND, OHIO

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Book No. 1274 fully illustrates and describes **"any speed instantly"** P. I. V. Gears. Send for a copy.

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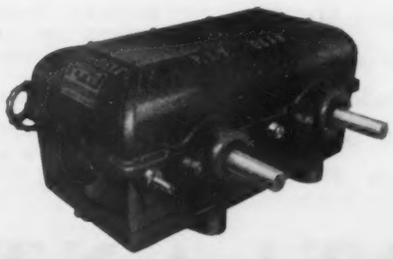

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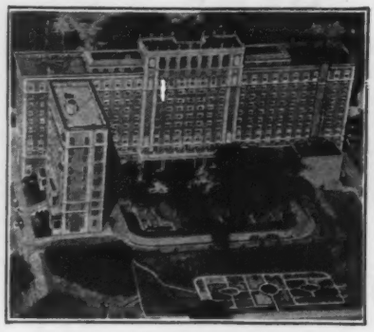

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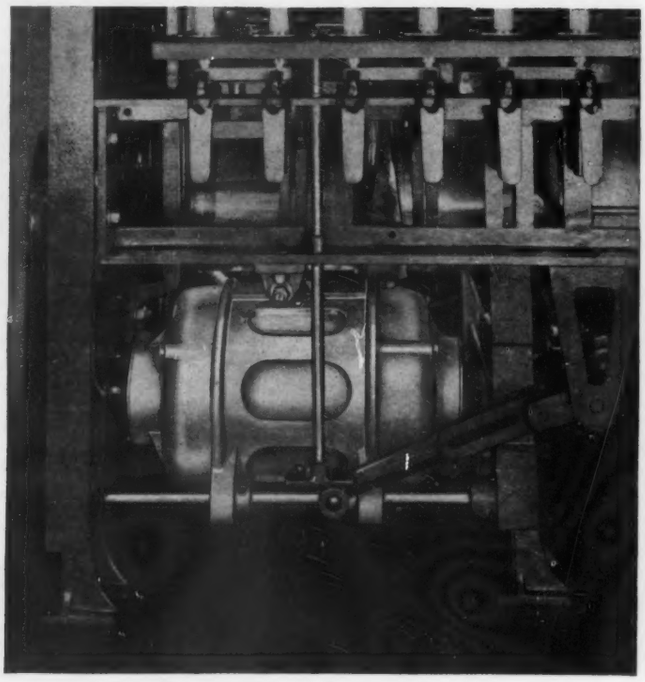

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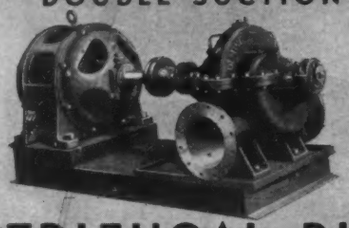
DIEHL

TEXTILE MOTORS

DEMING-MUELLER

DOUBLE SUCTION



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COTTON

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We have prepared and printed such a list, which may be had by writing our Cincinnati Office.

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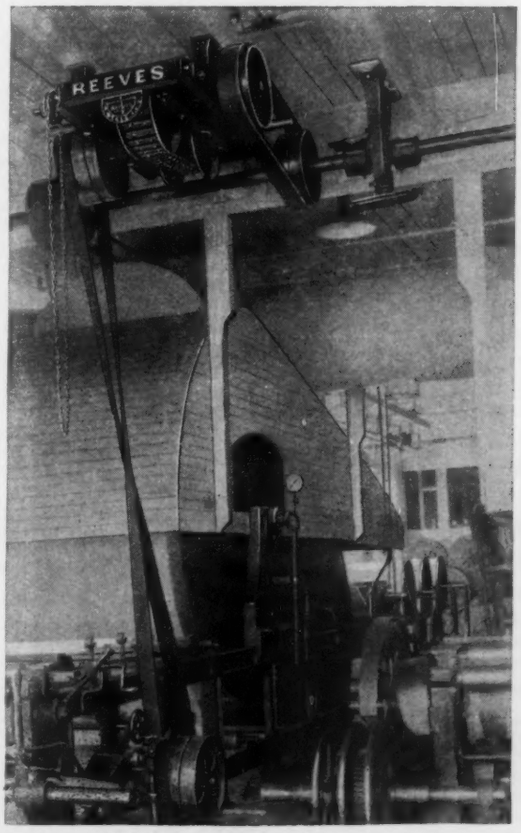
Transportation Bldg.
P. O. Box 1449 Cincinnati, Ohio



Ceiling type installation of REEVES Variable Speed Transmission, driving a slasher in a large Georgia mill. Note how easily speeds may be changed—merely by a slight movement of chain extension from the speed changing screw of the Transmission.

How to Insure UNIFORM DRYING
of Warp Yarn in the Slasher

● BY replacing obsolete step-cone pulleys with the REEVES Variable Speed Transmission, you can put *infinite, accurate control of drying speeds* at the finger tips of your slasher operator—and secure *absolute uniformity* in the drying of warp yarns.

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The slasher is only one of the *many* textile machines which can be vastly improved in performance by the application of *accurate* speed regulation, as provided by the REEVES Transmission. Made in a wide range of sizes, designs and controls, there is a *correct* REEVES unit for *every* speed-control need in your plant. Send coupon for Catalog describing and illustrating these money-saving, process-improving uses; or write for facts on your *specific* requirements.

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Without obligation, please send copy of Catalog, T-99.
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Company.....
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